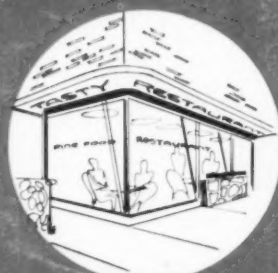


# COMMERCIAL REFRIGERATION & AIR CONDITIONING

JUNE, 1953



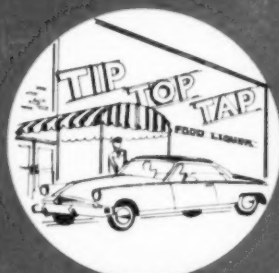
RESTAURANTS



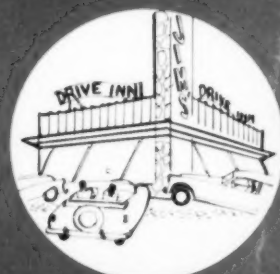
INSTITUTIONS



HOTELS



BARS

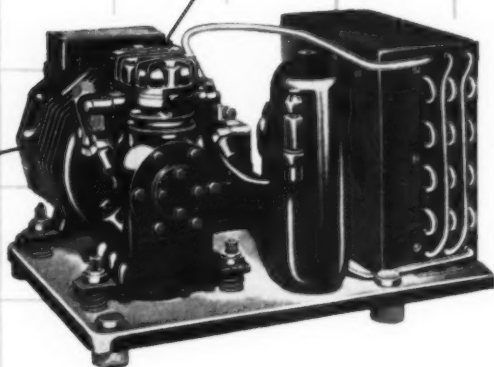
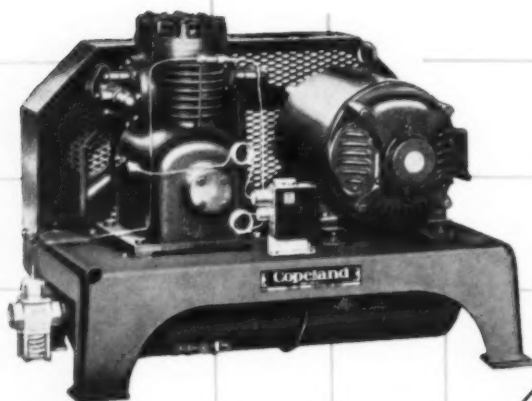


DRIVE-INS

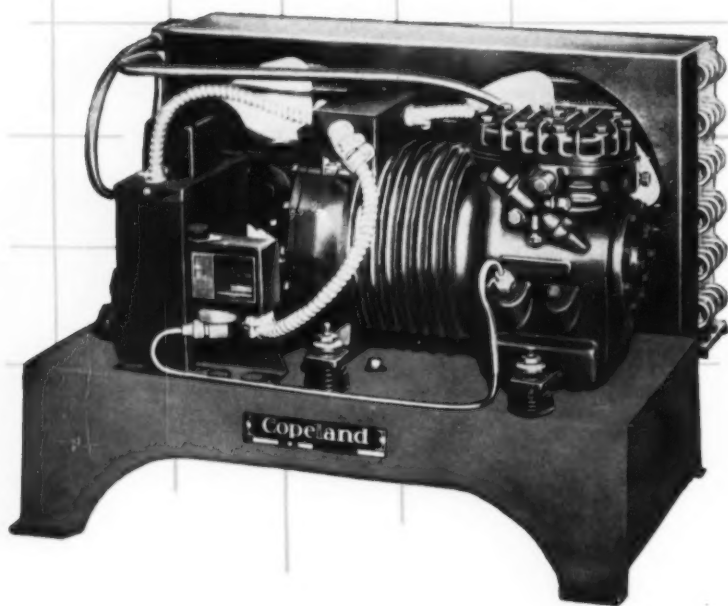
**101 IDEAS** to help you  
sell more refrigeration and air  
conditioning equipment to the  
Food Service Field

Your Subscription to this National Magazine is by Compliments of  
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412 EAST 5TH AVE. KNOXVILLE 6, TENN.

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## profit line



We're not crystal ball gazing when we tell you the Copeland complete refrigeration line can be your profit line for 1953. We've seen hundreds of dealers and jobbers succeed with Copeland, building their prosperity on three solid facts.

First, the Copeland line offers a unit for every size and type job. Air-cooled, belt-driven models range from  $\frac{1}{4}$  through 3 HP, water-cooled from  $\frac{1}{4}$  through  $7\frac{1}{2}$  HP. Copelametic, the accessible hermetic, is available from  $\frac{1}{8}$  through  $7\frac{1}{2}$  HP.

Second, Copeland's long-standing reputation for recognized quality insures recommendations and repeat sales.

Third, extensive and hard-hitting national advertising pre-sells your prospects, creates a ready acceptance to cash in on.

Display and sell the complete Copeland line — your Profit Line for '53.



**Copeland**  
DEPENDABLE *Electric* REFRIGERATION

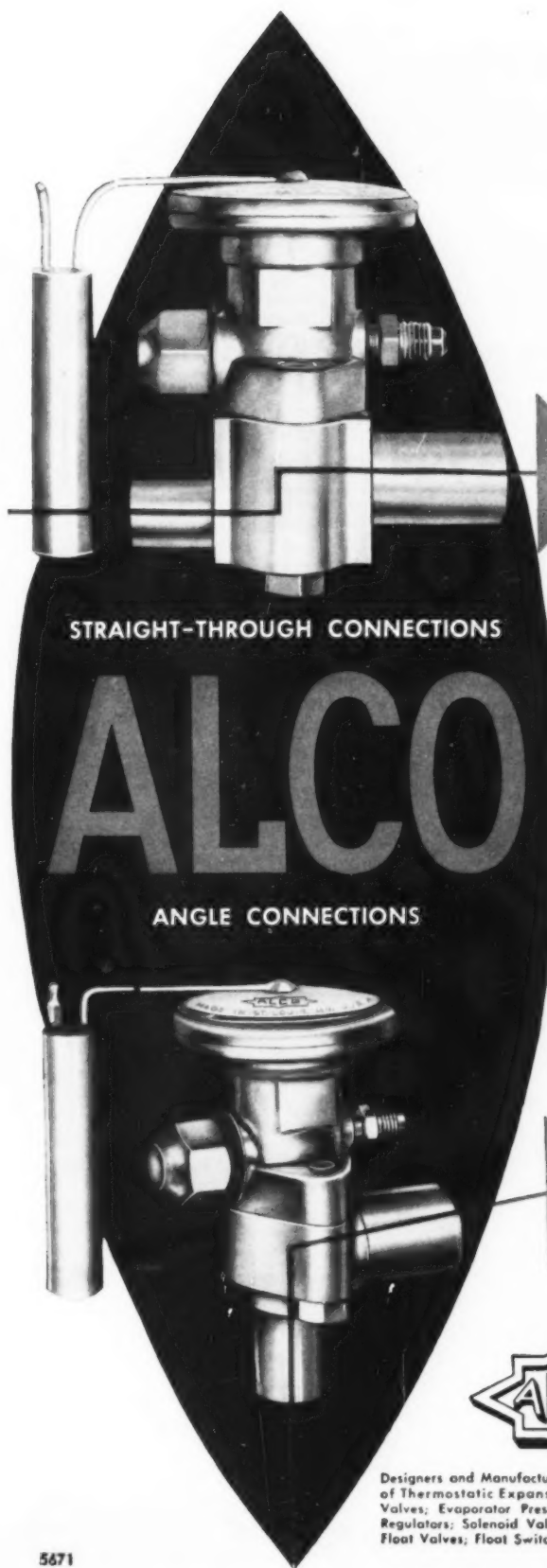


REFRIGERATION UNITS (OPEN TYPE AND COPELAMETIC) WATER COOLERS

**COPELAND REFRIGERATION CORPORATION • SIDNEY, OHIO**

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**Save Installation Time!**

## **"T" SERIES THERMO VALVES**

available in 2 types:

- **STRAIGHT-THROUGH CONNECTIONS**
- **ANGLE CONNECTIONS**

Now you can choose the "T" Series Valve that best fits each job—any location.

***inside...they're identical***

Parts are interchangeable.

They're simple to service without removing the body from the line. To adjust superheat, just unscrew the seal cap and turn the stem.

Available for all temperature ranges—all operating conditions.

Write for further information today.

**SEE YOUR ALCO WHOLESALER**

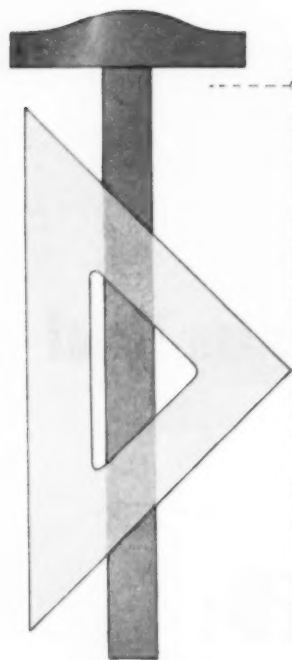


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Valves; Evaporator Pressure  
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**843 KINGSLAND AVE. • ST. LOUIS 5, MO.**

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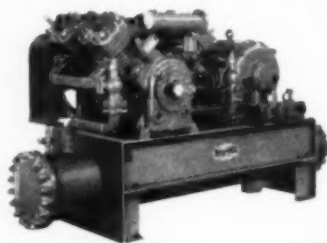
for  
more  
**AIR CONDITIONING**  
profits for you

In this air conditioning business, your profits (and ours, too) depend upon performance! That's why every performance factor—efficiency, economy, long service life, etc.—is so carefully considered in the design of Brunner air conditioning equipment. You can always depend upon Brunner units to protect your profits—no other equipment is easier to install, maintain and service on the job.



Brunner service-proven Self-Contained Air Conditioners in 3 models in 5 sizes (2, 3, 5, 7½ and 10 H.P.) now available. Easy to install... needs only water and electrical connections.

The most complete line of "open type" Condensing Units in the world—from ¼ H.P. to 75 H.P. Brunner CAN MEET your requirement.



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**Brunner Manufacturing Company**  
**Dept. G-63 Utica, N.Y., U. S. A.**

IN CANADA: Brunner Corporation (Canada) Limited, Toronto, Ontario

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**JUNE, 1953 • COMMERCIAL REFRIGERATION**

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and AIR CONDITIONING

# COMMERCIAL REFRIGERATION & AIR CONDITIONING

JUNE, 1953

VOLUME 10, NO. 6

*If you're looking . . .*  
for 101 IDEAS designed to help you sell  
more refrigeration and air conditioning  
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WHAT ***Life-Line*** REALLY DELIVERS IS MORE SERVICE... LESS SERVICING

Circle No. 4 on Reader Service Card

JUNE, 1953 • COMMERCIAL REFRIGERATION



# The way to grease modern motors is **DON'T!**

The modern, *pre-lubricated* Life-Line consigned faulty lubrication to the motor museum almost ten years ago.

Think what it means. No more incorrectly greased motors. No failures from overlubrication, from under lubrication . . . from use of incorrect or dirty grease. Correct lubrication is sealed in . . . in advance.

Result? Longer motor life. Over a half million *pre-lubricated* Life-Line motors operating in every conceivable type of application have proved that outages from incorrect lubrication have been eliminated completely.

Take the case of an eastern manufacturer, for example. Motors were installed high on a press—out of reach of a maintenance man. Consequently, motor lubrication was forgotten. Bearings failed—windings burned. Then *pre-lubricated* Life-Lines were installed. Failures disappeared. Today, motors are still forgotten—but safely.

Remember, the way to lubricate a modern motor is don't. And, to spot a *truly* pre-lubricated motor, look for a motor that has *no* grease fittings. You'll *know* then it needs no greasing attention. You'll find your answer in Life-Lines.

Ask your nearby Westinghouse representative for a copy of "Facts on Pre-lubricated Bearings", B-4378, and for all the reasons why Life-Lines offer you more service on the job . . . less servicing. Or write Westinghouse Electric Corporation, P. O. Box 868, Pittsburgh 30, Pennsylvania.

J-21682-A

YOU CAN BE **SURE**...IF IT'S  
**Westinghouse**



# Here's **PROOF** of *Acme* acceptance throughout the refrigeration industry

These Original Equipment Manufacturers . . .

**WORTHINGTON**



**TECUMSEH**



**GENERAL ELECTRIC**



**bryant**



*Chrysler Airtemp*

**TRANE**

**MILLS INDUSTRIES, Incorporated**

**Westinghouse**

**Copeland**  
DEPENDABLE REFRIGERATION



**ACME INDUSTRIES, INC.**

Continuously Serving the Air Conditioning and Refrigeration Industry since 1919

For over thirty years ACME has been producing air conditioning and refrigeration products preferred by original equipment manufacturers of commercial and industrial refrigeration and air conditioning equipment.

ACME's background as heat transfer specialists means dependable, highly efficient fluid chillers, freon and ammonia condensers, oil separators, heat exchangers, liquid receivers, evaporative condensers, cooling towers, and allied products for original equipment manufacturers and general distribution.

Products of the outstanding manufacturers whose trademark appears on this page depend on ACME to maintain their high standards by using components from the complete Acme line.

Select component parts from this  
**COMPLETE *Acme* LINE**

## **DRY-EX\* WATER CHILLERS**

More than 700 combinations from which to choose, assuring you of the most efficient chiller operation obtainable. Capacities from 5 to 260 tons for all common liquid chilling applications.

## **ACME CONDENSERS**

More than 120 models and standard sizes of Freon and Ammonia shell and tube, and shell and coil types. Capacities from 1/2 to 700 tons.

## **BLO-COLD\* INDUSTRIAL UNIT COOLERS**

For vegetable storage, packing plants and low temperature installations. 5 distinct series for either Freon or Ammonia with more than 260 combinations.

## **ACME COOLING TOWERS**

Available for use where compactness counts. An all metal tower completely galvanized for long life. Capacities from 3 to 60 tons.

## **ACME OIL SEPARATORS**

A complete line of Freon or Ammonia separators for 1/4 to 100 ton systems.

## **ACME HEAT EXCHANGERS**

Compact, efficient Freon suction and liquid line heat exchangers designed for systems from 3 to 200 tons.

## **ACME LIQUID RECEIVERS**

More than 70 standard sizes for Freon, Ammonia, or other refrigerants.

## **HI-PEAK\* WATER COOLERS**

Seven standard sizes providing large storage capacity and all non-ferrous surfaces in contact with the fluid.

## **ACME EVAPORATIVE CONDENSERS**

For Freon or Ammonia. More than 30 models with capacities up to 1,250,000 BTU/hr. from which to choose. Your choice of either copper tubing or pipe coils. Completely hot-dipped galvanized after fabrication. Capacities from 4 to 130 tons.

## **FLOW-COLD\* PACKAGED LIQUID CHILLERS**

A factory assembled, pre-tested liquid chilling unit shipped ready for instant installation. Balanced performance from matched Acme components for systems of 2 to 15 tons. Also used as a Heat Pump providing both heating and cooling for year-round air conditioning.

## **FLOW-TEMP\* REMOTE ROOM CONDITIONERS**

Designed for the modern recirculated hot or cold water air conditioning systems. Whisper quiet with variable air recirculation permits efficient individual zone control.

\*Trade Mark



**JACKSON,  
MICHIGAN**

# IF YOU WERE *Your Prospect* which would sell YOU ?

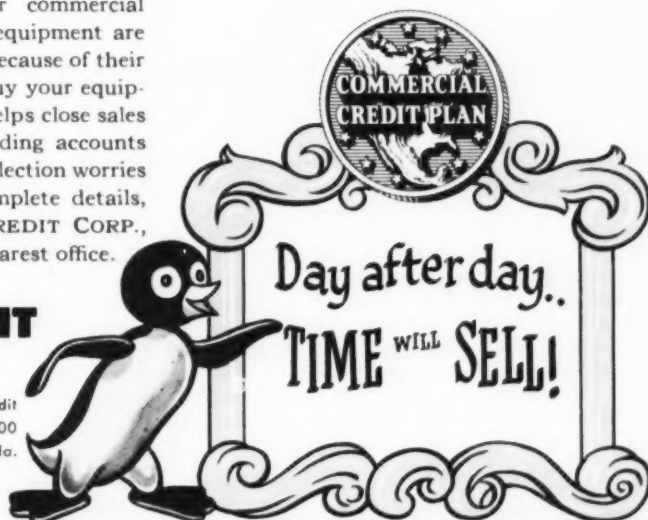


## Feature Time Payments to close more sales with the *COMMERCIAL CREDIT PLAN*

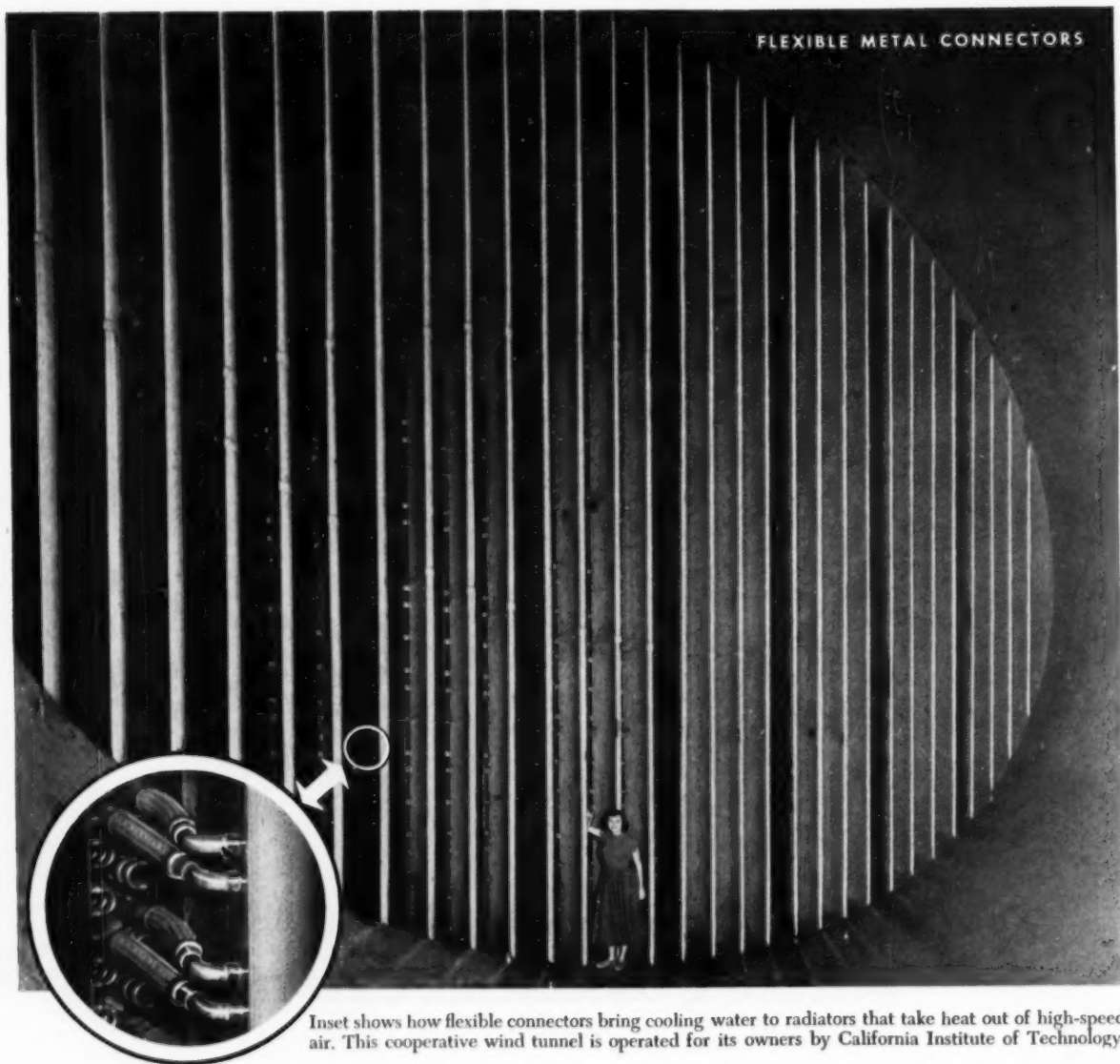
**M**ORE AND MORE prospects for commercial refrigerating and air conditioning equipment are becoming, of necessity, **TIME BUYERS**. Because of their cash position it's the only way many can buy your equipment. The **COMMERCIAL CREDIT PLAN** helps close sales . . . improves your cash position by avoiding accounts receivable. And you turn your credit and collection worries over to **COMMERCIAL CREDIT**. For complete details, facts and figures, write **COMMERCIAL CREDIT CORP.**, 14 Light Street, Baltimore 2, Md. or our nearest office.

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A service offered through subsidiaries of Commercial Credit Company, Baltimore . . . Capital and Surplus over \$125,000,000 . . . offices in principal cities of the United States and Canada.



Circle No. 6 on Reader Service Card



Inset shows how flexible connectors bring cooling water to radiators that take heat out of high-speed air. This cooperative wind tunnel is operated for its owners by California Institute of Technology.

## 650 Connectors help put the chill on fast-as-sound air

In Pasadena, Calif., five aircraft manufacturers jointly own this giant wind tunnel. There they test designs at air speeds as high as sound itself.

But, when you squeeze air to get such jet-age speeds, you also heat it up. So you look for a way to cool it off. Here they used a solid bank of finned cooling coils; but then they had to get cooling water to them through 650 piping connections. First, they had to consider aligning each opening; then

expansion when temperatures rose and fell. And they had to keep the air-stream bone dry. No leaks allowed.

They did it the easy way . . . with American Seamless Flexible Metal Connectors known as Vibration Eliminators. They had no trouble installing them. A solder-type connection made them permanently tight.

Maybe there's an idea here for you. American Flexible Metal Hose and Tubing have many uses . . . for con-

nections that must move, bend, vibrate, connect misaligned ports . . . or piping in cramped spaces. They can safely carry almost any liquid, gas, chemical or semisolid. And you can get them in many alloys, sizes and types. Write for Catalog SS-50 to *The American Brass Company, American Metal Hose Branch, Waterbury 20, Connecticut. In Canada: The Canadian Fairbanks-Morse Co., Ltd.*

63242

wherever connectors must move... *American* flexible metal hose and tubing

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JUNE, 1953 • COMMERCIAL REFRIGERATION



**For PEAK PERFORMANCE**

**on *All Refrigeration Systems***



**CATCH-ALLS  
SOLENOIDS  
THERMOSTATIC  
EXPANSION VALVES  
REFRIGERANT  
DISTRIBUTORS**

**SPORLAN VALVE COMPANY**

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ST. LOUIS 17, MISSOURI

# KENNARD WATER SAVERS

*Engineered*

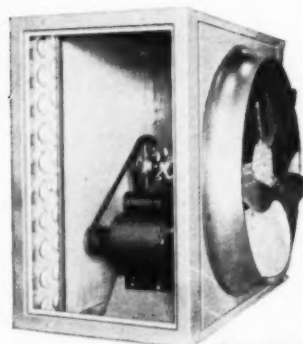
*Announcing  
the latest  
addition to the .....*

**PACKAGED ECONOMY LINE**  
RESIDENTIAL—COMMERCIAL—INDUSTRIAL  
**PACKAGED ECONOMY LINE**

## AIR COOLED CONDENSER

Kennard planned for quiet operation; incorporating a specially designed air venturi, and a top quality five blade heavy duty fan.

Continuous capacity operation is assured by a generous coil surface and a long lived "V" belt drive.



Three Sizes  
2, 3 and 5 Tons

### TWO OTHER EFFICIENT

## WATER SAVERS

TO SERVE YOUR PARTICULAR NEEDS



Five Sizes  
3, 5, 8, 11 and 16 Tons

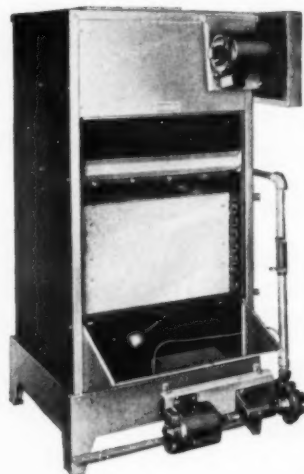
### KT—COOLING TOWERS EK—EVAPORATIVE CONDENSERS

Kennard selected centrifugal type fans (Hot-Dip Galvanized) for quiet operation and for their ability to overcome duct resistance on indoor installations, and adverse wind effects on outdoor installations.

Completely galvanized cabinets, rugged enough for outdoor use, and completely coated on interior with an asphalt and asbestos fibre material for further rust-proofing.

Wetted Deck of the Cooling Tower is long lived clear heart of redwood.

The Evaporative Condenser has all prime surface copper coil.



Five Sizes  
3, 5, 7½, 10 and 15 Tons

For Air Conditioning Units and larger Water Savers, see the Kennard Representative, or write for special bulletins..

Representatives in all principal cities

**KENNARD CORPORATION • 1827 S. HANLEY ROAD  
ST. LOUIS 17, MO., U.S.A.**

# NEW! ...from



## The latest development in small, trouble-free SOLENOID VALVES!



**TYPE 2 S**  
3/4" or 1/2" ODS Connections



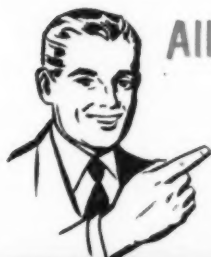
**TYPE 2 P**  
1/4" or 3/8" Pipe Connections

**BOTH**  
*Unconditionally  
Guaranteed  
for 18 Months*

Jackes-Evans Mfg. Co., some time ago, introduced a line of revolutionary new small solenoid valves. They featured absolutely tight seating and high differential pressure rating — plus — the ability to function properly when installed in vertical lines.

NOW Jackes-Evans is proud to announce that these valves are available with *forged bodies* — with *either* pipe thread or solder connections.

The use of forged bodies permits still further simplification of the internal construction — making these valves the most foolproof, trouble-free solenoid valves that money can buy. Why not ask your refrigeration wholesalers about them **TODAY!**



### All JE Valves Have These 5 Features of Dependability

- Tight Seating — no bubble tolerance.
- Long Life — cool coils.
- Simplicity — only two moving parts.
- Durability — all corrosion-resistant material.
- Opening pressure differential — higher than most others on the market.

*See your local refrigeration wholesaler, or write us today for details.*

**JACKES-EVANS MANUFACTURING COMPANY CONTROLS DIVISION**  
4427 GERALDINE AVE. • ST. LOUIS 15, MISSOURI

# He's put his finger on a real selling feature!



**How to be sure the glass in a refrigerated case is sealed from dirt and moisture**

Only *Thermopane*\* insulating glass has the famous *bonded-in Seal*\*, which prevents moisture and dirt from getting between the panes. This seal is metal-to-glass . . . no organic material that can deteriorate or leak.

To make sure the next case you buy has a *Thermopane* visual front, look for the *Thermopane* name imprinted on the seal between the panes. You'll find it on all the better refrigerated cases.

**LIBBEY-OWENS-FORD GLASS COMPANY**  
2963 NICHOLAS BUILDING TOLEDO 3, OHIO

**Thermopane**  
INSULATING GLASS  
LOOK FOR THE NAME ON THE SEAL BETWEEN THE PANES



Your customers are reading the ad shown here. They know the best cases have *Thermopane*\* insulating glass fronts. Point out to them that *your* cases have *Thermopane*. Why not *display* reprints of the above ad in your store. Tell us how many you want. Libbey-Owens-Ford Glass Company, 2963 Nicholas Building, Toledo 3, Ohio.

\*B

## WE'RE BUILDING A CASE FOR YOUR CASES IN:

Ice Cream Review.....	April
Quick Frozen Foods...	May
Meat Merchandising...	June
Food Topics.....	August

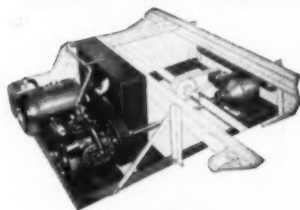


# The RIGHT COMBINATION

opens the door to truck  
refrigeration profits too!

Just as it takes the right combination to open a safe, it also takes the right combination of equipment to get the top dividends from truck refrigeration. That's why Kold-Hold gives you your choice of several different truck refrigeration combinations to provide a method of refrigeration that is just right for each special problem. These Kold-Hold systems will maintain pre-determined low temperatures in your trucks with any degree of automatic operation desired. They can be fully automatic and thermostatically controlled or they can be semi-automatic requiring overnight hook-up to an electric outlet or a cooling system. One of these systems, properly engineered to your needs, can pay for itself in longer trips, reduced handling, increased customer satisfaction and elimination of spoilage losses.

## KOLD-HOLD can answer any refrigeration problem!



KOLD-TRUX

Which do you prefer . . . Mobile or Hold-Over truck refrigeration? Kold-Hold can give you either or a combination of both.

When your weather worries start, pick out the routes with the biggest refrigeration problems and call on Kold-Hold to give you a satisfactory solution. They will give you the right combination for your needs from such highsides as the Kold-Trux Mobile Unit, a mounted compressor, or make-and-break assemblies, coupled to such lowsides as Kold-Hold Hold-Over Plates, Thin Plates, Serpentine Quick-Action Plates, or Blowers.

Why not give us the details of your problems and let our engineers find the most efficient solution for you. Write today for details.



HOLD-OVER PLATES

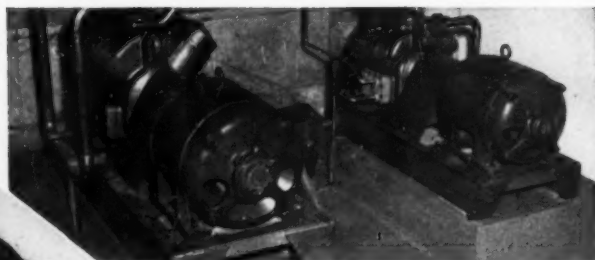


Tell us your truck refrigeration problems and send now for complete data and literature.

## KOLD-HOLD

protects every step of the way

KOLD-HOLD MANUFACTURING CO., 503 E. Hazel St., Lansing 4, Mich.



One 10 horsepower and a 25 horsepower Century motor furnish power to air condition an office.

Century 75 horsepower Type SCH motor driving a compressor in a skating rink.

**Unusually Quiet  
Starting and Running  
Characteristics**

**For  
REFRIGERATION COMPRESSORS**  
You Need the High Starting Torque of . . . .

*Century*

**Century Service Is Near Any Century Motor Driven Equipment.** Prompt Service is offered by CENTURY'S National Network of more than 200 Authorized Service Stations, supervised by 28 Century Sales offices.

- 1 Facilities for immediate exchange of most CENTURY standard ratings of standard construction are available at CENTURY Authorized Service Stations.
- 2 CENTURY Authorized Service Stations are qualified and equipped to service and repair any piece of CENTURY apparatus.
- 3 Genuine CENTURY renewal parts are available at CENTURY Service Stations, CENTURY Parts Distributors and at the factory in St. Louis.



## Type SCH Motors

Century Type SCH, Squirrel Cage polyphase alternating current High Torque motors are ideal for refrigeration compressor applications. They bring compressors up to speed smoothly and easily under full load.

Century Type SCH motors have the high starting torque characteristics required for Refrigeration Compressors. The low starting current is desirable for automatic across the line starting.

In addition, Century builds a complete line of electric motors in a wide range of types, in sizes from 1/8 to 400 horsepower. Specify Century motors for all your electric power requirements.

**CENTURY ELECTRIC COMPANY** • 1806 Pine Street, St. Louis 3, Missouri  
Offices and Stock Points in Principal Cities

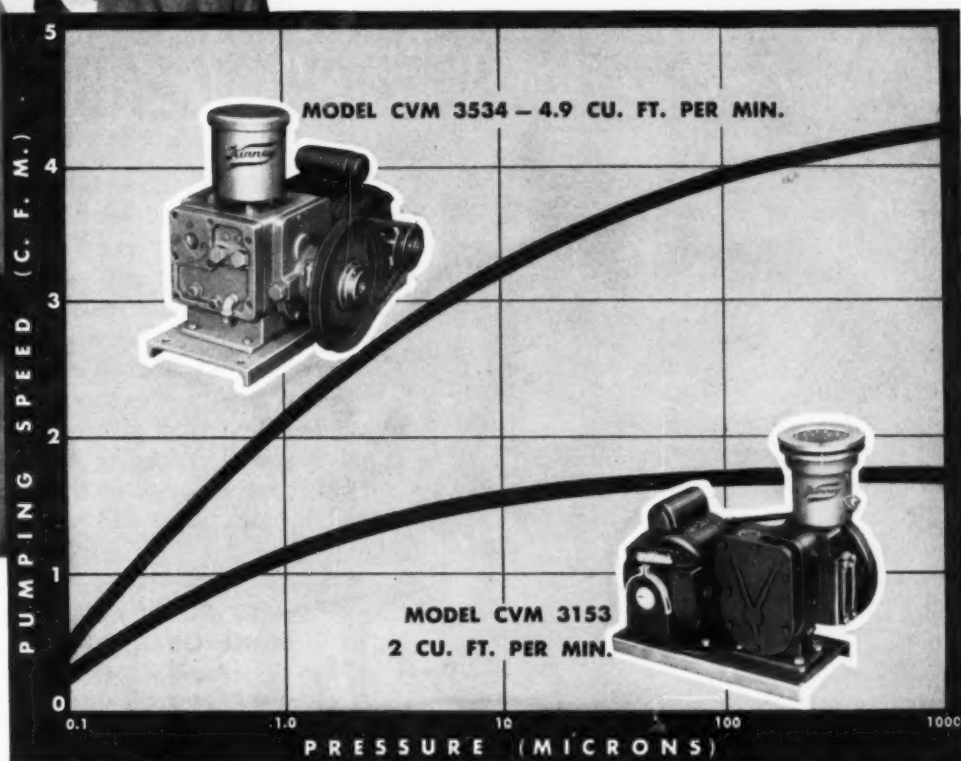
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CE791



# What vacuum do you need?



Notice how these midget Kinney Vacuum Pumps retain better than 50% of their pumping speed well into the less-than-ten-micron zone. Both pumps start at the snap of a switch, without "warmup" . . . and they pull down fast to the low absolute pressure you need. These two pumps are time and trouble savers — they operate quietly and with the barest minimum of attention.



Kinney Manufacturing Company, Boston 30, Mass. Representatives in New York, Chicago, Detroit, Cleveland, Atlanta, Houston, New Orleans, Charleston (W. Va.), Philadelphia, Pittsburgh, Los Angeles, San Francisco, Seattle, and foreign countries.

SEND COUPON FOR DETAILS

**KINNEY MANUFACTURING COMPANY**  
3618 Washington St., Boston 30, Mass.

Please send Bulletin SV-51 giving details and complete specifications on midget Kinney Vacuum Pumps.

NAME .....

COMPANY .....

STREET .....

CITY ..... STATE .....

Circle No. 13 on Reader Service Card



**Small shelf—Big stock...**

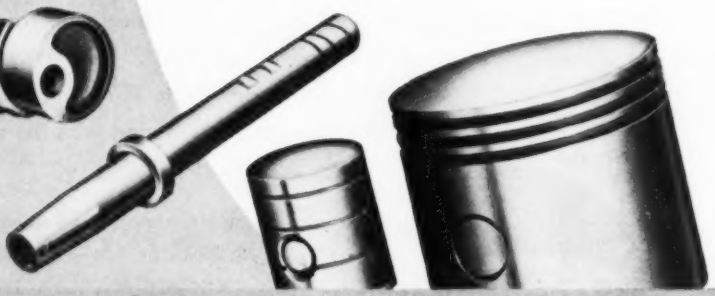
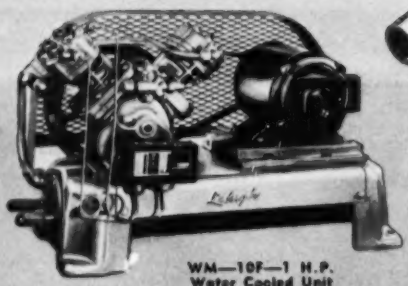
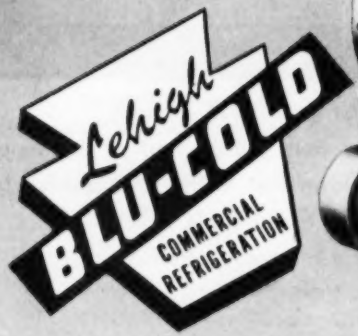
**WITH LEHIGH'S GREATER  
INTERCHANGEABLE PARTS**

Or, to put it another way, a \$25 investment allows a Lehigh BLU-COLD wholesaler to carry Seals, Valve Plates and Gaskets for the entire BLU-COLD line from 1/4 H.P. thru 5 H.P. You must agree that this is not only a reflection of good engineering but a many sided advantage. Investment is smaller. Inventory is smaller. Less space is required. Turnover is more rapid (and percentage of profit!) Unit servicing is much easier and convenient. Everybody wins!

**THREE BASIC COMPRESSORS  
MAKE OVER 200 MODELS**

with capacities from 870 to 70,000 BTU/Hr.  
with over 50 generally interchangeable parts

A postcard will bring latest PARTS CATALOG  
or see your nearest Lehigh BLU-COLD  
wholesaler.



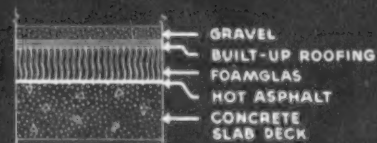
**Lehigh BLU-COLD  
CONDENSING UNITS and SYSTEMS**

Lehigh Manufacturing Co., Lancaster, Pa.  
Division of Lehigh Foundries, Inc.

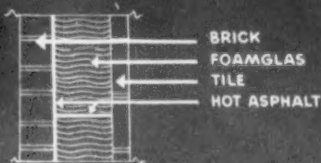
Export Dept. — 13 E. 40th St., New York 16, N. Y.

Manufacturers of Malleable and Grey Iron Castings • Refrigerating Equipment • Air Valves • Automatic Vending Machines

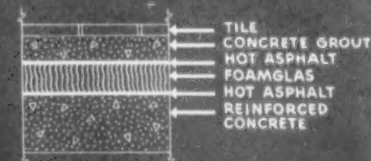




ROOF SECTION



EXTERIOR WALL SECTION



FLOOR SECTION

Architect: Louis C. Kingscott & Associates, Inc.,  
Kalamazoo, Mich.

General Contractor: Miller Davis Co.,  
Kalamazoo, Mich.

Roofing Contractor: C. R. Hough & Sons,  
Kalamazoo, Mich.

Insulation Contractor: Tony Batenburg Insulation Co.,  
Grand Rapids, Mich.

**"FOAMGLAS®**  
enables us to get a really  
dependable vapor barrier..."

... says C. W. Schmidt, Chief Engineer, Peter Eckrich & Sons, Inc., Fort Wayne. He explains, "We selected FOAMGLAS to insulate three coolers added to our Kalamazoo sausage and meat plant because its moisture-proof sealed glass cells enabled us to get a really dependable vapor barrier for walls, roof and floors."

Mr. Schmidt emphasizes, "We benefit particularly from FOAMGLAS' great compressive strength. When we add a second story this extra strength will permit us to construct a regular floor right on our FOAMGLAS roof. No additional support will be needed to allow this floor to bear heavy loads. A further advantage of FOAMGLAS, its vermin-proof nature, is of prime importance, of course, in the food industry."

For more facts about how FOAMGLAS can benefit you, send the coupon now for our new booklet on FOAMGLAS insulation in refrigerated structures.



C. W. Schmidt



PITTSBURGH CORNING CORP., Dept. I-63  
One Gateway Center, Pittsburgh 22, Pa.

Please send me your brand new booklet on the use of  
FOAMGLAS for refrigerated structures.

Please send me also the following:

- ☐ Free sample of FOAMGLAS  
☐ Piping and Equipment Booklet  
☐ Normal Temperature Buildings Booklet  
☐ Engineer to help with specific problem  
☐ Location of nearest source of supply

Name \_\_\_\_\_ Title \_\_\_\_\_

Company \_\_\_\_\_

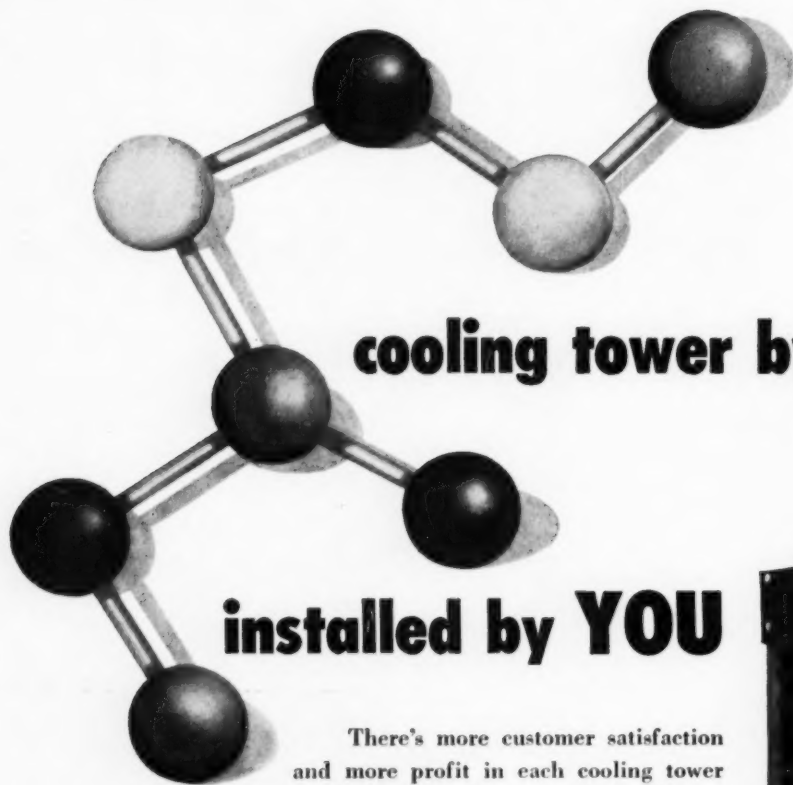
Address \_\_\_\_\_

City \_\_\_\_\_ Zone \_\_\_\_\_ State \_\_\_\_\_

**PITTSBURGH CORNING CORPORATION**

One Gateway Center • Pittsburgh 22, Pa.

# Formula for complete customer satisfaction:



## cooling tower by **MARLEY**

## installed by **YOU**

There's more customer satisfaction and more profit in each cooling tower sale when you team up with Marley, world's leading producer of water cooling equipment.

The sale itself is easier — for Marley is the best known and most widely advertised name in cooling towers. Installation is no problem, because Marley designs and packages its towers to make your job as easy as possible. And the performance record of Marley Aquatowers® and natural draft towers over the years, in every type of service, is your assurance of lasting, trouble-free performance for your customers.

Easy to sell . . . simple to install . . . sure to satisfy — these are the advantages of linking your good name with that of the Marley Company this year. And this is the year when these advantages are most important, for 1953 will be your busiest year!

\*Reg. Trademark

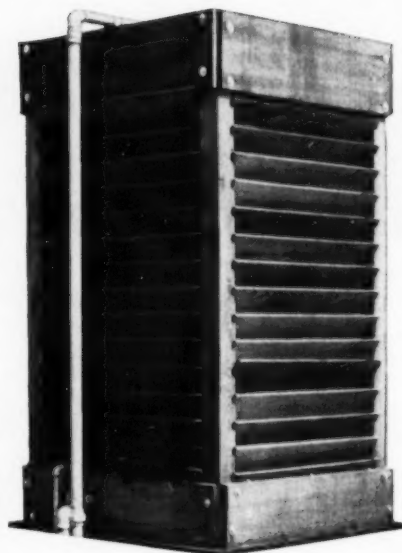
## **The Marley Company**



Kansas City, Missouri

Circle No. 16 on Reader Service Card

**JUNE, 1953 • COMMERCIAL REFRIGERATION**



**HIGHER EFFICIENCY • GREATER CAPACITY • FASTER PICKUP**



**ANSUL  
T-FLO DRIER  
WITH  
ANDRITE  
THE HIGH-SPEED DESICCANT**

**Picks up moisture *faster*..  
holds *more* moisture *longer*..  
than any other type or form of  
desiccant or refrigerant drier.**

Buy them at leading refrigeration wholesalers everywhere

Ansul T-Flo Driers are new in design, new in appearance and contain the remarkable new desiccant, **ANDRITE**. They provide greater capacity, higher efficiency and a faster rate of moisture pickup.

In addition they are easy to install and much easier to replace than the conventional types of refrigerant driers.



**ANSUL**  
*Chemical Company*

REFRIGERATION DIVISION • MARINETTE, WISCONSIN

MANUFACTURERS OF REFRIGERATION PRODUCTS, INDUSTRIAL AND FINE CHEMICALS, LIQUEFIED GASES AND FIRE EXTINGUISHING EQUIPMENT

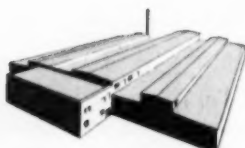
Circle No. 17 on Reader Service Card

and AIR CONDITIONING • JUNE, 1953

# Good Men to Know!



**WM. H. McCULLOUGH**  
Factory Representative  
Illinois-Wisconsin Territory  
serving you through these  
reputable wholesalers



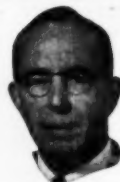
Plant 1—1600 Broadway N.E.  
Minneapolis 13, Minn.



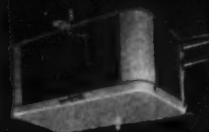
Plant 2—1729 Broadway N.E.  
Minneapolis 13, Minn.



Plant 3—4th and Park Ave.  
Faribault, Minn.



**J. B. McGUAN**  
Automatic Heating & Cooling Supply  
Division Well-McLain Co.  
Chicago 6, Illinois



**VINCENT J. SWEENEY**  
Automatic Temperature Supplies Inc.  
Madison, Wisconsin



**C. L. BERGHULT**  
Automatic Heating & Cooling Supply  
Southside Branch  
Chicago, Illinois



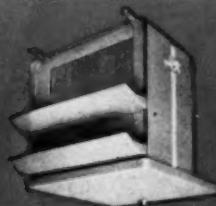
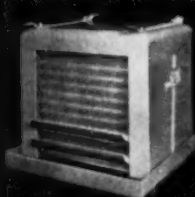
**D. J. SMITH**  
Vincent Refrigeration &  
Heating Supply  
Milwaukee, Wisconsin



**GERALD WHITING**  
Automatic Heating & Cooling Supply  
Hammond Branch  
Hammond, Indiana



**BRYSON ROTH**  
Marquette Equipment Company  
Peoria, Illinois



## CONSULT YOUR McQUAY WHOLESALER FOR EVERY REFRIGERATION NEED

McQuay is proud of its complete line of *proved and preferred* refrigeration equipment and of the men who represent the company to you. There is a McQuay wholesaler in your territory, qualified by long experience and backed by the entire McQuay sales and engineering organization, who can give you the right answer to your specific problem — whether it's selling help, technical advice or quick action you want. Consult your McQuay wholesaler or write McQuay, Inc., 1643 Broadway N. E., Minneapolis 13, Minn.

# McQuay INC.



REFRIGERATION  
HEATING  
AIR CONDITIONING

MANUFACTURERS OF HEAT TRANSFER EQUIPMENT SINCE 1923

Circle No. 18 on Reader Service Card



# Look at the space saved!



Outline shows size of old style fitting compared with the new Close-Ruff Elbow.

— with this new  
**NIBCO  
CLOSE-RUFF  
ELBOW**



— and it's got everything I've wanted in an elbow!

- ★ **SHORT RADIUS** — made to fit tight spots.
- ★ **STRONG AND RUGGED** — with compact design.
- ★ **PURE COPPER** — matches with copper tube.
- ★ **FASTER INSTALLATION** — heats up quickly.
- ★ **ECONOMY WEIGHT** — saves copper and space.



**NORTHERN INDIANA BRASS CO.**  
614 PLUM STREET, ELKHART, INDIANA

**TRY IT YOURSELF, FREE!** We'll be glad to mail you, without cost, a new Nibco Close-Ruff Elbow so you can check for yourself how it speeds the job and protects your profit. Send coupon for free sample.

**NORTHERN INDIANA BRASS COMPANY**  
614 Plum Street, Elkhart, Indiana

I'd like to test the New NIBCO Close-Ruff Elbow. Rush my free sample.

Name

Address

City  State

Circle No. 19 on Reader Service Card



## "Here's how we keep out of trouble"

Scale, algae, dirt and slime, if allowed to accumulate in "evaps," cooling towers, shell and tube condensers, will soon cause trouble. Head pressures mount. The machine may run all the time, or not at all. The way to prevent such trouble is to use Solvex Maintenance Grains regularly.

If you now have a neglected system and want immediate relief, Solvex Cleaner Grains will give you that. They can be used while the machine is in operation and, in most cases, will reduce head pressures in less than an hour. Solvex

is also available in easy-to-use tablet form.

Solvex\* contains no harmful acids or alkalis. It doesn't present a hazard to the operator. It can't harm equipment.

"Virginia" distributes two other Solvex products of interest to refrigeration engineers: Ice Machine Cleaner Powder *safely* removes lime deposits, slime and dirt which cause cube lock, opaque ice, slow freezing and offensive tastes. "CC" Coating, an excellent waterproofing and rust-preventive compound, is particularly suited for use where

galvanizing has been unsatisfactory.

Your wholesaler has these fine-quality products. Or write VIRGINIA SMELTING CO., Dept. 64, West Norfolk, Va.

\*Manufactured by the CHEMICAL SOLVENT CO., Birmingham, Ala.

**VIRGINIA**  
Refrigerants

ESOTOOL • V-METH-L • KINETIC CHEMICAL'S "FREONS"  
CAN-O-GAS • PERMAGUM • PRESSTITE TAPE  
SOLVEX PRODUCTS • SUNISO REFRIGERATION OILS

Circle No. 20 on Reader Service Card

JUNE, 1953 • COMMERCIAL REFRIGERATION

**For the  
first time**

# Tecumseh offers

## REMOTE UNITS

**IN A COMPLETE RANGE OF SIZES FROM 1/4 to 15 H.P.**

**AIR COOLED**



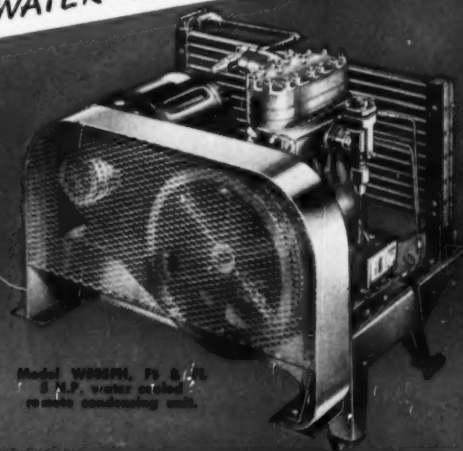
Model 5001, 3 & 1/2  
1/2 H.P., air cooled  
remote condensing unit.

**AIR AND WATER COOLED**



Model AW250,  
2 1/2 H.P., air-water cooled  
remote condensing unit.

**WATER COOLED**



Model W505PM, 15 & 1/2  
3 H.P., water cooled  
remote condensing unit.

For remote units up to 15 H.P., investigate this new, improved Tecumseh line now available to the jobber trade. The medium range (3/4 to 3 H.P.) incorporates the recently developed series of "V" type compressors and the new FFP with oil pump (3/4 H.P.). These compressors are designed for maximum efficiency, lower cost, compactness of size and increased capacity. All of these factors are powerful selling points for you when selling these units to the field. The lower range (1/4 to 3/4 H.P.) and the high range (5 to 15 H.P.) use the dependable 1400, 1000, R & S compressors.

Included in the remote line are air cooled models from 1/4 to 3 H.P., combination air-water cooled models from 1/2 to 3 H.P. and water cooled models from 1/2 to 15 H.P.

The complete line also includes hermetics from 1/8 to 1 1/2 H.P. and self-contained units from 1/4 to 3/4 H.P. Look to Tecumseh for a complete line of quality units for all of your refrigeration requirements up to 15 H.P.

For full information write:

**TECUMSEH PRODUCTS**

TECUMSEH, MICH.

*Company*

**TECUMSEH**

EXPORT DEPT.: 2111 WOODWARD AVE., DETROIT, MICH.

Circle No. 21 on Reader Service Card

★ The world's largest  
producer of condens-  
ing units for the re-  
frigeration industry. ★

# MUELLER BRASS CO. deluxe drier with the desiccant that is twice as effective!



Many extravagant claims are made regarding the moisture absorbing capacities of desiccants. The property that is most important to the refrigeration industry is not the total amount of water that a desiccant will absorb, but rather it's the end-point dryness of the refrigerant that really counts. End-point dryness is the amount of moisture left in the refrigerant after the drier has absorbed its capacity. Tests prove that Silica Gel has the capacity to absorb and hold twice as much moisture, by weight, as other commonly used refrigeration desiccants, while maintaining a fixed end-point dryness. Hundreds of thousands of Silica Gel granules manufactured to a special size and sealed into a 12 cu. in. Mueller Brass Co. Deluxe Drier provide over 600,000 sq. ft. of the best drying surface you can get—more than enough to keep your refrigerant thoroughly dry at all times.

To date, more than 2,750,000 Mueller Brass Co. Driers have been installed in commercial refrigeration systems all over the world. The completely satisfactory service they have given wherever they were installed is proof enough that you just can't buy a drier anywhere at any price that will keep your refrigerant so thoroughly dry, so scrupulously clean and free from foreign matter. Mueller Brass Co. Driers are available in capacities from 3 cu. in. to 242 cu. in. Order now from your refrigeration wholesaler.

Comparison table: Silica Gel in Mueller Brass Co. Driers vs. two other common commercial desiccants.

Desiccant	% of moisture absorbed, by weight, at normal temperatures*
MUELLER BRASS CO. SILICA GEL	8%
Commercial Desiccant A	4%
Commercial Desiccant B	3%

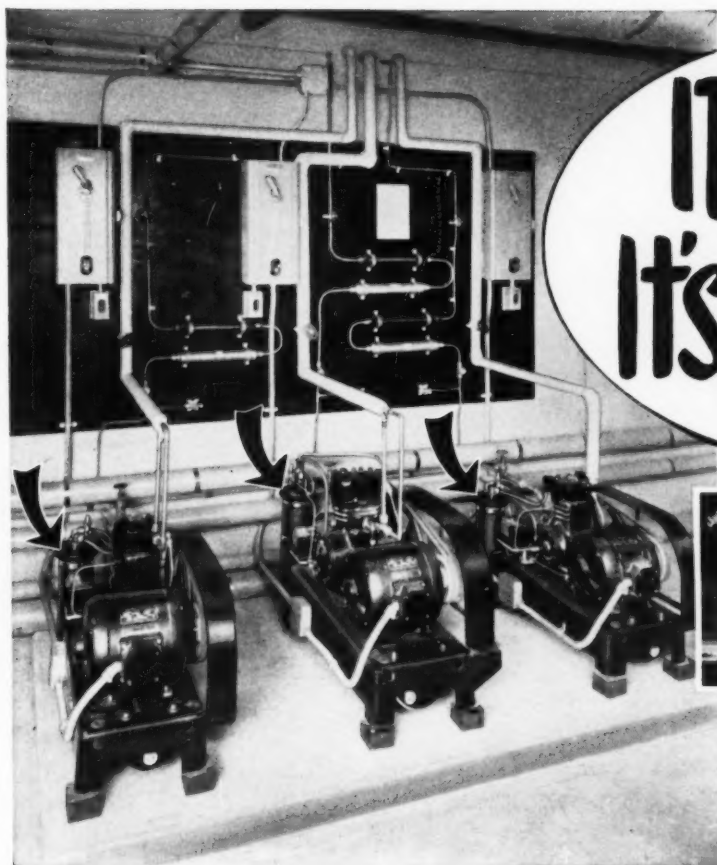
\*Maintaining Freon 12 at 30 parts per million moisture concentration.

## MUELLER BRASS CO. PORT HURON 10, MICHIGAN

Circle No. 22 on Reader Service Card

JUNE, 1953 • COMMERCIAL REFRIGERATION





**IT'S NEW!**  
**It's modern!**



One of the most modern schools in America is the new Clara Bryant Junior High School in Dearborn, Michigan.

Three condensing units supply refrigeration needs for the school's cafeteria and drinking water fountains throughout the building.

★ **...and TEMPRITE Oil Separators are on the job!**

- ★ Temprite Oil Separators keep oil in the compressor and away from the evaporator and condenser walls.
- ★ Oil-free coils permit the refrigerant to boil at its true boiling point in evaporator, condensing at the proper temperature in the condenser.
- ★ Lower temperatures easily reached and compressor operating time held to a minimum. Power and water consumption is held to a minimum.
- ★ Compressor crank case oil level remains constant, eliminating danger of scored compressor parts.



**Temprite**



Self-Contained Water Coolers



Remote Water Coolers



Cooler Carbonators



Control Valves



Instantaneous Liquid Coolers



Oil Separators



Beer Coolers

**PRODUCTS CORPORATION ★ BIRMINGHAM, MICHIGAN**

Circle No. 23 on Reader Service Card

and AIR CONDITIONING • JUNE, 1953

**TEMPRITE PRODUCTS CORP.**

P.O. Box 72-B, Birmingham, Michigan

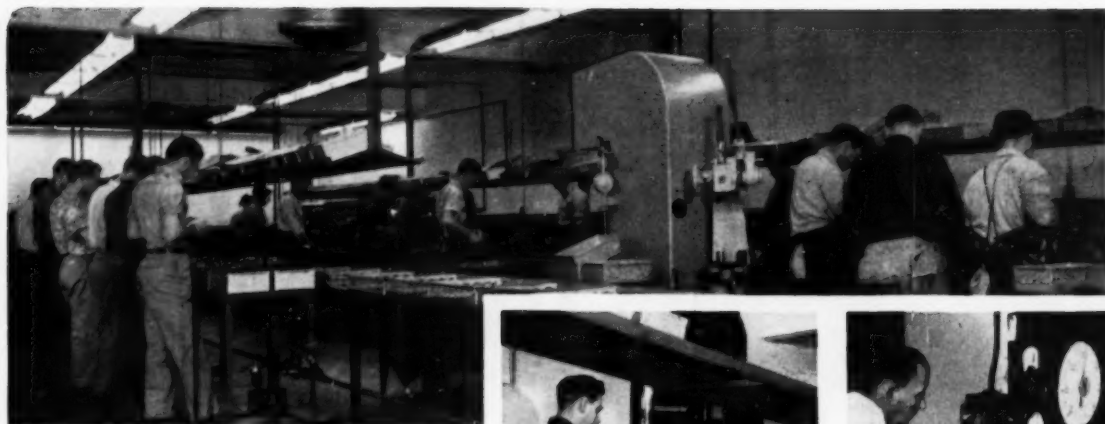
- ☐ Please send me complete data on Temprite Oil Separators
- ☐ Ask your representative to call

Name \_\_\_\_\_

Address \_\_\_\_\_ Zone \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_

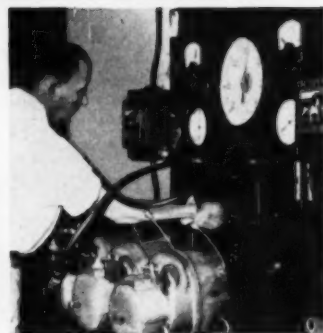




Clean as a kitchen is the spacious, white-walled, brightly lighted, temperature-controlled room in which Supermetic power units are assembled. Every part of the compressor is washed before entering the room. No place here for dirt or foreign particles that might cause trouble or wear.



After permanent connections from motor to power unit terminals are made, the motor-compressor is accurately fitted into its steel case and hydraulically pressed into place.



Every Servel Supermetic power unit is given a final Volumetric inspection test in an air-conditioned room to make sure it delivers its full rated capacity.

**BUILT-IN** *Quality*

**makes SERVEL SUPERMETICS**

**perform better . . . longer!**

The years and years of economical, trouble-free performance that tens of thousands of satisfied users are experiencing with Servel Supermetic Condensing Units are the result of the super quality which is built into them.

Advanced engineering, careful selection of materials, skill of workers, precision manufacturing methods, rigid inspection of every unit produced . . . all add up to a finished product that has proved that it performs better and longer.



● To learn more about the outstanding buy in Hermetic Condensing Units for every commercial refrigeration need—from 1/4 to 3 HP—see your nearby Servel Wholesaler or write to Servel, Inc., Electric Refrigeration Division, Evansville 20, Indiana.

*Servel* ✓

**THE NAME TO WATCH FOR GREAT ADVANCES  
IN REFRIGERATION AND AIR CONDITIONING**

# FOR PUMP SERVICE...

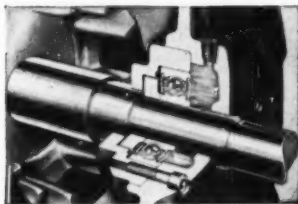
*"All motors are  
NOT alike!"*

**RELIANCE**  
*Precision-Built*  
**MOTORS**



*Reliance Totally-enclosed Fan-cooled  
A-c. Motor. All other standard en-  
closures available, with wide choice  
of mechanical designs and special  
mountings. Ratings from 3/4 to 300 hp.*

- ★ Tough, moisture-proof Reli-X insulation
- ★ Liberal ratings . . . low starting currents . . .  
pump-duty torques
- ★ Moisture-proof conduit box and motor lead assembly



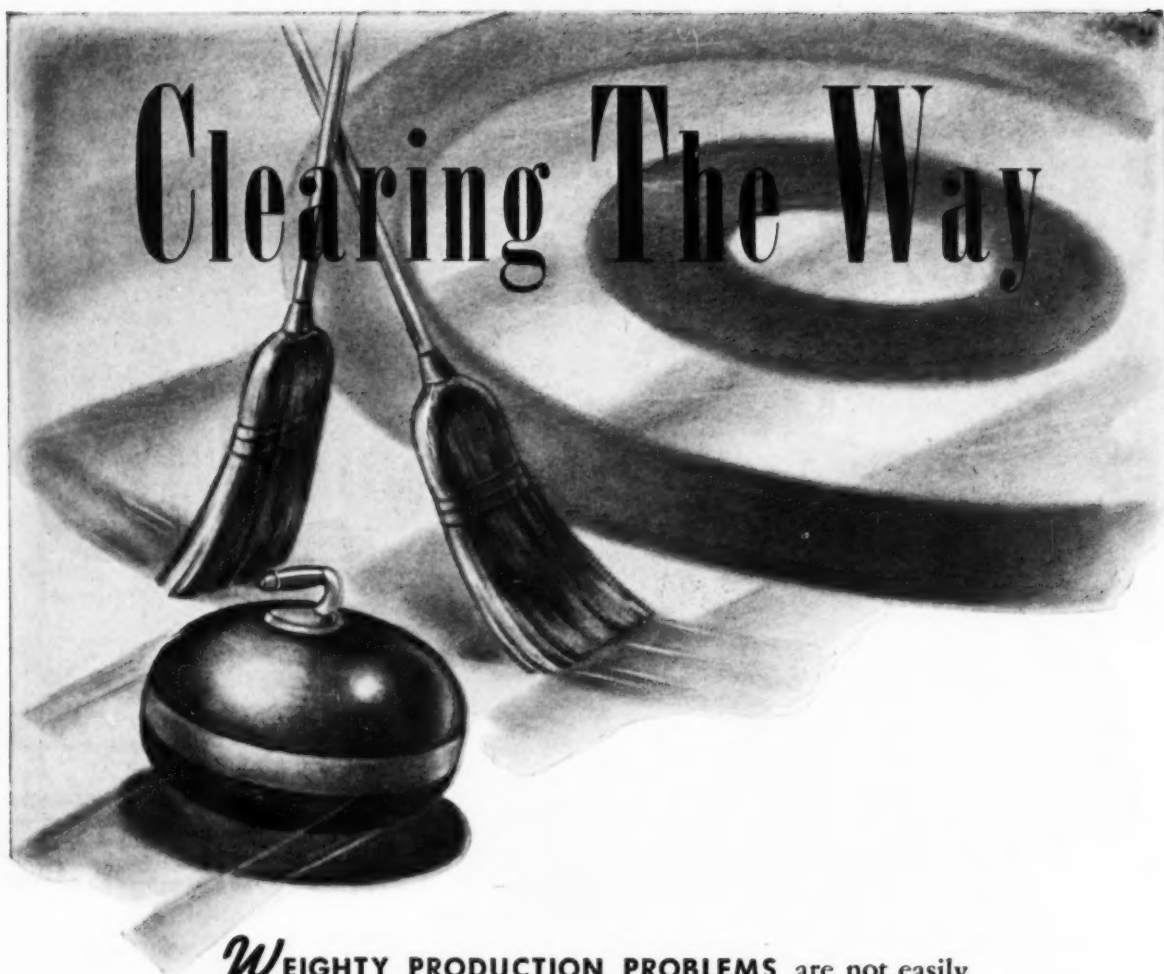
#### ... AND THE BEST PRE-LUBRICATED BEARING DESIGN

The Reliance pre-lubricated bearing provides *four times more operating hours without re-lubrication* than any other bearing used in motors today. And—whatever your lubrication schedule—*you just can't grease 'em wrong!* To get the complete "inside story" on motor bearings, write today for Bulletin B-2201. It contains hard facts on the advantages of the Reliance pre-lubricated bearing design, with cutaway view, cross-section diagram, comparison chart, and statements by bearing manufacturers. B-1454F

**RELIANCE ELECTRIC AND  
ENGINEERING CO.**

1113 Ivanhoe Road, Cleveland 10, Ohio • Sales Representatives in Principal Cities

Circle No. 25 on Reader Service Card



**WEIGHTY PRODUCTION PROBLEMS** are not easily swept away. Careful calculation by experienced minds is often required before the right type of tubing for a specific job can be determined.

The Penn team, all working together, produces tubing that is always in line when it comes to tight requirements. Consistently clean, bright, uniform in wall thickness and annealed to specifications, Penn seamless tubing is quality controlled from draw bench to shipping department.

Production men everywhere have learned that Penn tubing gives production a clear road ahead. Write Penn for new specs and charts. Penn men can help you outdistance the field with a winning margin. Remember, Penn tubing is *first in quality*.



QUALITY TUBING HAS A "PENN NAME"

**PENN BRASS & COPPER COMPANY**

ERIE • PENNSYLVANIA • TELEPHONE 3-1164

Circle No. 26 on Reader Service Card

THE MAKERS OF THE WORLD-FAMOUS AMPROBE NOW BRING YOU THE

# NEW AMPROBE JUNIOR

VOLT-AMP TESTER

**\$19<sup>85</sup>**  
INCLUDING  
VOLTAGE  
TEST LEADS



**One pocket tester does the complete job**



#### IT'S A SNAP-AROUND AMMETER

Measures current instantly without shutdowns or breaking of insulation for ammeter connections.

Gives you tester ruggedness with instrument accuracy (within  $\pm 3\%$  of full scale)



#### IT'S A VOLTAGE METER

Measures voltage quickly, accurately on a full-sized calibrated scale; eliminates guesswork.

#### PICK THE RANGE THAT FITS THE JOB:

MODEL "10": 0-10 AMPS A-C 0-125/250 VOLTS A-C  
MODEL "25": 0-25 AMPS A-C 0-125/250 VOLTS A-C  
MODEL "50": 0-50 AMPS A-C 0-125/250 VOLTS A-C  
MODEL "100": 0-100 AMPS A-C 0-125/250 VOLTS A-C

Now every service man can be equipped with this time-saving pocket tool. The Amprobe Junior pays for itself the first month alone by taking the guesswork out of installation and servicing jobs. When you "Amprobe" it, you get it right the first time and eliminate costly call-backs. Write today for Catalog No. 132. Pyramid Instrument Corporation, Lynbrook, New York (Export Division: 458 Broadway, New York 13. Cable: Morhanex).

#### IF YOUR JOB CALLS FOR A MULTI-RANGE AMPROBE:



AMPROBE "300"  
0-6/15/30/60/150/300  
AMPS AC.  
0-150/300/600 VOLTS AC.  
\$49.50 COMPLETE WITH  
LEATHER CASE AND  
VOLTAGE TEST LEADS.



AMPROBE "600"  
0-15/30/60/150/300/600  
AMPS AC.  
0-150/300/600 VOLTS AC.  
\$59.50 COMPLETE

AMPROBE "1200"  
0-15/60/150/300/600/  
1200 AMPS AC.  
0-150/300/600 VOLTS AC.  
\$67.50 COMPLETE

Circle No. 27 on Reader Service Card





8 cell cooling tower driven by  
8 Wagner Multi-speed Motors.

## Here's a job for *Rugged* motors

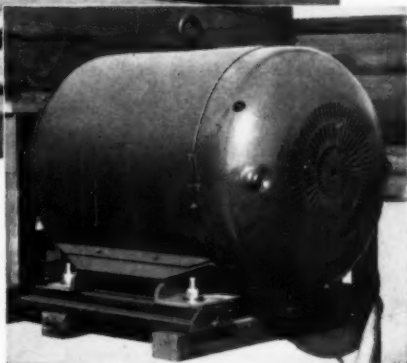
This 8 cell Marley Cooling Tower, at Pueblo, Colorado, provides a steady supply of 6600 gallons of cooling water per minute for a steam power plant. There are 8 fans with blades 22 feet in diameter that are driven, through gear reducers, by 8 Wagner two-speed, totally-enclosed fan-cooled motors. These 440 volt motors are each rated 75/19 hp.

Cooling towers need motors with plenty of stamina. They must

operate without attention, day in and day out, completely exposed to all kinds of weather.

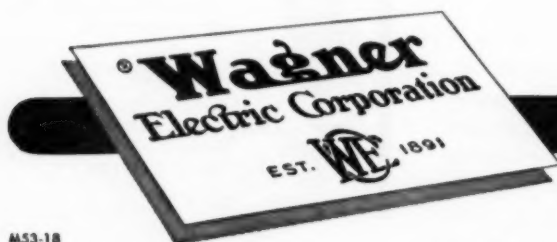
Wagner totally-enclosed fan-cooled motors are built to operate under severe conditions. They are available in steel or cast iron frames, in standard or explosion-proof types, single-speed or multi-speed, single phase, 2 phase or 3 phase, in ratings to 250 hp.

For your requirements, there is a Wagner Motor to fit every need—



a complete line for all current specifications, with a wide variety of enclosure types and mountings. Bulletin MU-185 gives full information. Do you have a copy?

Your nearby Wagner engineer will be glad to help you select the *right* motors for your next application. Call the nearest of our 32 branch offices, or write us.



**WAGNER ELECTRIC CORPORATION**

6442 Plymouth Ave., St. Louis 14, Mo., U.S.A.

ELECTRIC MOTORS • TRANSFORMERS • INDUSTRIAL BRAKES  
AUTOMOTIVE BRAKE SYSTEMS — AIR AND HYDRAULIC

**BRANCHES IN 32 PRINCIPAL CITIES**

MS3-18

30

Circle No. 28 on Reader Service Card

Circle No. 29 on Reader Service Card →



# 8 tested, money-making helps free from your Gates jobber



Boost volume and profits with these practical aids  
for refrigeration servicemen

**Your Gates Jobber has on hand — or will quickly get for you—any or all of the valuable sales helps shown here at no cost to you.**

These fully-tested aids form a complete, practical business-building program for refrigeration servicemen. They have been successfully used by servicemen from coast to coast to gain new customers, boost sales volume, increase profits. And they are *yours* with no strings attached.

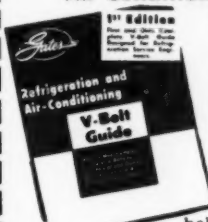
Check NOW — while you think of it — the items you want and take this ad to your Gates Jobber. He'll gladly fill your request. The Gates Rubber Co., Denver, U.S.A. *World's Largest Maker of V-Belts.*



The mark of specialized research.

Check items you want and present to your Gates Jobber

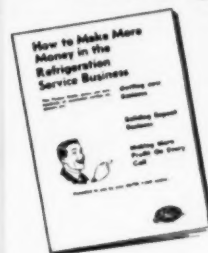
## 1 Refrigeration and Air Conditioning V-Belt Guide:



Most complete guide ever published in the industry. Contains V-Belt specifications for the large, extra-profitable commercial installations, as well as for home appliances.

106 pages — all the belt and pulley information you need to service nearly every domestic and commercial refrigeration and air-conditioning unit known.

## 2 How to Make More Money in the Refrigeration Service Business:



Tells how to get new business... build repeat business... make more profit on every call. A wealth of successful sales promotion ideas and methods.

## 3 Printed Sales Pieces for use as direct - mail advertising, bill inserts or hang-up cards. Space for your name.



## 4 Newspaper Mats of effective ads used by service engineers.



## 5 Service Record Stickers

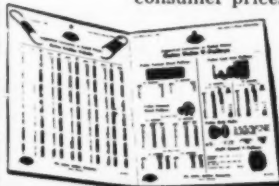


to put on equipment you've serviced. A reminder to customers to call you again for service. Space for rubber-stamping your name.

## 6 Interchange Card tells correct Gates Belt to use when replacing belts of other manufacturers. Handy and grease-resistant.



## 7 Price Card... lists suggested consumer prices for Gates V-Belts and V-Pulleys. Hang in shop or truck.



## 8 Customer Service File Cards



make it easy to keep a permanent record of every service job.

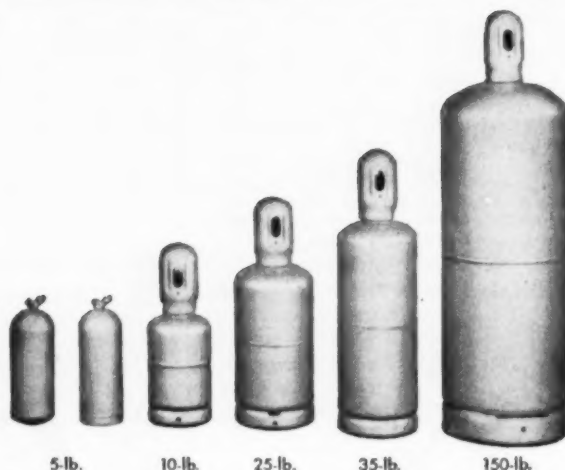
Specially Engineered

# Gates V-Belts

## for Refrigeration and Air-Conditioning Equipment

**DON'T  
SETTLE  
FOR LESS**

**use**  
*Prest-O-Lite*  
Trade-Mark  
**CYLINDERS FOR  
REFRIGERANTS**



- ✓ Rugged, sturdy construction
- ✓ Uniform sidewall thickness
- ✓ Lightweight—easy to handle
- ✓ Finest workmanship
- ✓ Best appearance
- ✓ Tested far beyond all codes
- ✓ Extra years of trouble-free life
- ✓ They're economical!

You are *sure* that your refrigerant gas containers will give you many years of dependable service—and save you extra dollars—when you own PREST-O-LITE cold-drawn cylinders. They're built by the company which has been the largest manufacturer and *user* of compressed gas cylinders for almost half a century. In each step of design and fabrication the ultimate in gas containers is achieved—and this skill and experience is passed on to you with every PREST-O-LITE cylinder you get. It's no wonder that refrigerant cylinder buyers who have compared feature for feature have found out they are getting the greatest value with top-quality PREST-O-LITE cylinders.

Available in sizes ranging from 5-lb. to 150-lb. capacities—with valve, and cap on all but 5-lb. styles. A few of the popular squat-type cylinders are shown above. You'll like their good-looking appearance, with glossy metallic bronze finish. **WRITE TODAY** for full information and prices—select the PREST-O-LITE cylinder that fits *your* needs exactly.

**MADE BY**

*Linde*

"Prest-O-Lite" is a registered trade-mark of Union Carbide and Carbon Corporation.

**LINDE AIR PRODUCTS COMPANY**

**A DIVISION OF UNION CARBIDE AND CARBON CORPORATION**

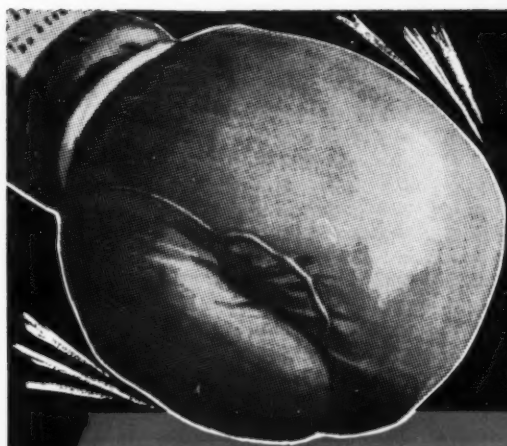
30 East 42nd Street **UCC** New York 17, N. Y.

Offices in Other Principal Cities

In Canada: DOMINION OXYGEN COMPANY, LIMITED, Toronto

Circle No. 30 on Reader Service Card

**JUNE, 1953 • COMMERCIAL REFRIGERATION**



# THE PUNCH

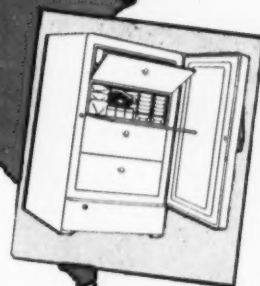
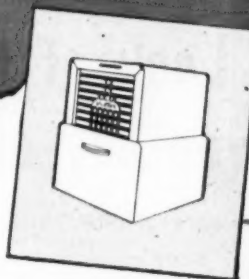
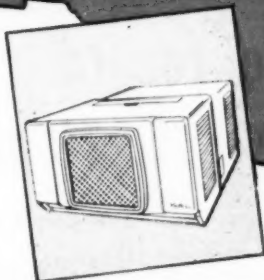
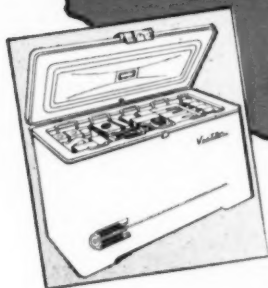
**LOADED WITH  
FOLLOW THROUGH...**

**THE GREATEST, HARDEST-HITTING  
NATIONAL ADVERTISING CAMPAIGN**

*in its history*

**TO MAKE YOUR VICTOR SALES**

# ZOOM!



● **Hard-selling, impelling color ads.**

**28 national magazines**

**63 million circulation • 135 million impressions**

**Punch-packed co-op newspaper campaigns**

**Radio! TV! Promotion! Publicity!**

**Glamorous Point-Of-Sale**

**Send for details on the complete line...the VICTOR LINE!**

FIRST NAME  
IN  
QUICKFREEZERS



UNSURPASSED QUALITY  
and Value in FREEZERS  
DEHUMIDIFIERS • AIR CONDITIONERS



**VICTOR PRODUCTS CORPORATION • HAGERSTOWN, MARYLAND**

## VICTOR PRODUCTS CORPORATION HAGERSTOWN, MARYLAND

Gentlemen: Please send complete details on the Victor products checked below.

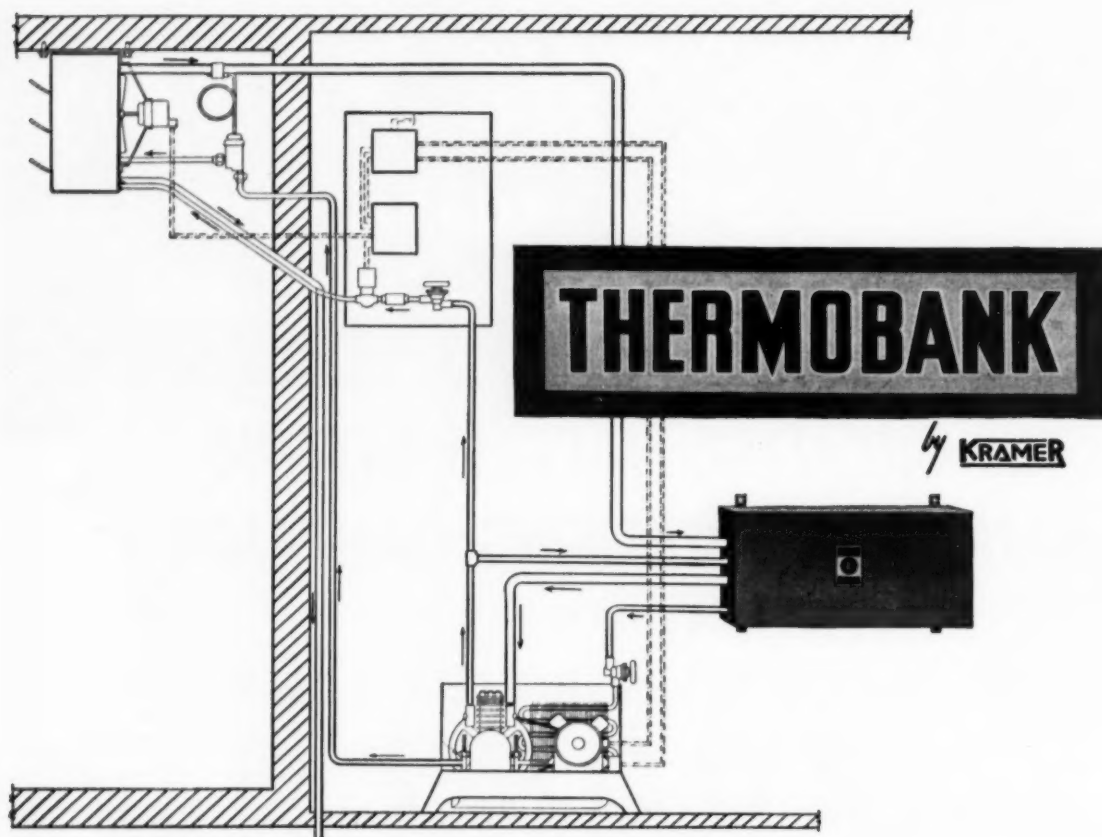
- ☐ Upright Quickfreezers
- ☐ Chest-Type Quickfreezers
- ☐ Air Conditioners
- ☐ Dehumidifiers
- ☐ Beverage Coolers
- ☐ Milk Coolers
- ☐ Self-Service Frozen Food Merchandisers
- ☐ Ice Makers
- ☐ Sterilizers
- ☐ Walk in High Temperature, Low Temperature Rooms
- ☐ Reach-in Refrigerators
- ☐ Triple Deck Merchandisers
- ☐ Self-Service Cases
- ☐ Service Cases

Name \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_

State \_\_\_\_\_



## Look at the record before you buy any defrost system

For eight years THERMOBANK has been the unquestioned standard for low temperature automatic defrosting. Significant improvements over the years have made THERMOBANK even better.

If you look at the record of thousands of successful installations, you, too, will join the leading refrigeration experts specifying Kramer THERMOBANK.

WRITE FOR BULLETIN R-124

**KRAMER TRENTON CO. • Trenton 5, N.J.**

Circle No. 32 on Reader Service Card

JUNE, 1953 • COMMERCIAL REFRIGERATION



**about**

# PEOPLE

**Charles J. Requard** has been appointed district sales manager of



the New England territory for Victor Products Corp. Requard will cover the entire states of Maine, Vermont, New Hampshire, Massachusetts, and Rhode

Island as well as portions of the states of Connecticut and New York. He will work closely with Victor distributors.

**Anthony S. Ryback** has been appointed sales manager for Wagner Tool & Supply Corp. He will handle all phases of the firm's sales to the refrigeration industry. He was formerly sales manager for Techniflex Corp., and has had wide experience as a manufacturer's agent in the refrigeration field.

**Fred Hermann** has been promoted to refrigeration application



engineer in the environmental test chamber division of Tenney Engineering, Inc. Hermann's new duties include load determination and design of refrigeration

systems for Tenney test chambers. He will also work on development and research products connected with present and proposed low temperature systems for chamber application. Before joining Tenney as field engineer in charge of installation and service of test chambers he was affiliated with Kramer-

Trenton Co. as laboratory technician and later assistant to the plant engineer.

**W. T. Farrow** has been named factory representative for Federal



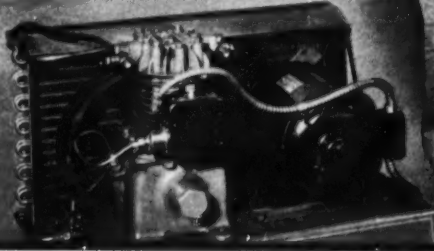
Refrigerator Mfg. Co. in the southwest. His territory will include the states of New Mexico, and Arizona; southwestern Colorado and a part of west Texas including El Paso, Amarillo and Lubbock. In

## Moisture Cleared Up Before You Leave

The moment Thawzone is introduced into the system, it starts to combat moisture. In a minute or two of "on" cycle, Thawzone reaches every part of the unit. From then on, Thawzone works continuously.

You do not have to wait for the refrigerant to pass through a cartridge many times. Thawzone clears up the moisture condition much faster, because it is acting in all parts of the system at once.

NO OTHER PRODUCT HAS ALL OF THESE ADVANTAGES: Actually destroys moisture . . . Helps prevent copperplating . . . Will prevent as well as overcome moisture trouble . . . A patented invention (cannot be copied) . . . Drying action not "smothered" by oil . . . Can't cause pressure drop . . . Costs only about 8 cents per lb. of refrigerant treated . . . For all "Freon" or methyl units . . . Only 1/8 oz. per lb. of refrigerant required. Get Thawzone at your wholesaler. Highside Chemicals Co., Clifton, N. J.



# THAWZONE®

The Only Product That Destroys Water . . . and Reaches All of it



**2 YEARS OF CLEAN SERVICE**

This needle valve remained clean and corrosion-free during its two years of service in a Thawzone-treated system.



the refrigeration field for over 25 years, Farrow will continue his headquarters at El Paso working with Federal dealers and distributors, chain stores and other equipment users.

**Bob J. Johnson** and **William Tenny** have been appointed sales representatives for McQuay, Inc. Johnson has been named new refrigeration products representative



B. J. Johnson



Wm. Tenny

for the company in the Pennsylvania, Maryland, Virginia and West Virginia territories. Tenny, of

**William Tenny & Co.,** Los Angeles, has been named heating and air conditioning representative for the firm in the Southwestern territory. Johnson has had seven years' experience with wholesalers in the territory he now covers. Tenny has had 12 years' experience with air conditioning contractors and project engineering.

**Sterling Alexander** has been appointed assistant sales manager for **Henry Valve Co.** With the company for 11 years, Alexander will act in a supervisory capacity in connection with all sales personnel and will also have charge of export sales for the company.



**David E. Feinberg** has been elected a director of **United States Air Conditioning Corp.** Feinberg, a vice president of the company, has been associated with the firm since 1940 and is former sales manager of its refrigeration division. Two

other executive promotions have been announced by the company. **R. D. McLain** has been named manager of sales for the refrigeration division and **C. F. Hawkinson** has been named manager of sales for the general equipment division. Both appointees will serve under **L. P. Hanson**, vice president in charge of sales.

**R. D. Hollingsworth** has been appointed district representative for **McIntire Co.** He will cover the Ohio, Indiana and Michigan area. Hollingsworth has been in the refrigeration industry for over 16 years as supervisor of installation

DRUG STORES • YOUTH CENTERS • CLUBS • TAVERNS  
• RESTAURANTS • DRIVE-INS • RECREATION  
CENTERS • AS • RES • RANTS • IL LOUNGES • CE • T • ER • CLU • AU • CKT • EATION • AETERIA

**ANYWHERE YOU LOOK  
THERE IS A SALE FOR  
CARBONIC  
BEVERAGE DISPENSING  
EQUIPMENT**

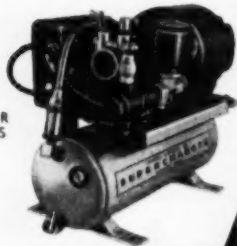


SODAMASTER  
Self-Contained,  
Refrigerated  
Dispensers



MIX-MONITOR  
5-in-1 Faucets  
3 Flavors Plus Jet  
and Soda Stream

SUPERCHARGER  
CARBONATORS  
100 Gals.  
Per Hour



**N**O OTHER BEVERAGE dispensing equipment can match the superior performance of unique, **PATENTED Carbonic Systems.** That's why, wherever carbonated beverages are served, **Carbonic** equipment is preferred. No other is so easy to sell, so easy to install.

#### WHY YOUR CUSTOMERS PREFER CARBONIC SYSTEMS

1. Cost-per-drink cut to fraction of bottle costs.
2. New speed in beverage dispensing, at the flick of a finger, saves labor time in serving.
3. Bottle handling time, trouble and expense eliminated.
4. Compact Carbonic Systems save space because they take less than bottle storage.
5. Dispensing speed handles peak crowds, avoids "walkouts."
6. Better drinks mean better business, more of it.

U. S. Patent Nos.  
2,202,179; 2,331,527;  
2,568,677.  
Other Pats. Pending.



#### MAIL THIS COUPON TODAY

Please send me full facts on the ☐ Soda master ☐ Mix Monitor Faucet ☐ 100 gallon-per-hour Supercharger Carbonators.

Firm \_\_\_\_\_

Address \_\_\_\_\_

Name \_\_\_\_\_



General Offices: Canfield, Ohio, and  
1851 Randolph St., Los Angeles, Calif.

# Peerless

PREMIUM-BUILT  
ELECTRIC MOTORS



## POWER



A CAPACITOR-START, CAPACITOR-RUN MOTOR DESIGNED SPECIFICALLY FOR REFRIGERATION COMPRESSOR DUTY.

Peerless Motors have a special power you should know about... a power that builds reputations.

The men who build, sell and service America's finest mechanical equipment know what we mean. They know the value of a motor expertly designed for its job... a motor that looks and acts like an integral part of the machine it drives. These men know, too, the importance of service. They respect the efficient, friendly way Peerless Engineers handle difficult problems of application and supply.

Yes, Peerless Motors carry a special premium... the Peerless name... a name that for 60 years has stood as a symbol of quality and performance.

MOTORS

FANS

BLOWERS

THE PEERLESS ELECTRIC COMPANY

W. MARKET ST. WARREN, OHIO

*Peerless  
Electric*

and maintenance in air conditioning as well as commercial and low-temperature refrigeration. For the past several years he has been sales engineer for a major valve manufacturer.

**Andrew P. Boehmer** has been appointed chief engineer and **William C. Mueller** has been named advertising manager for Dole Refrigerating Co. Formerly with Mills Industries as test engineer,



A. P. Boehmer



W. C. Mueller

applications engineer and assistant sales manager, Boehmer was recently director of the power laboratory in the College of Engineering

at the University of Iowa. Mueller was previously with Kraft Foods Co. for 10 years as an advertising manager.

**Leonard Schnall** has been appointed by General Controls Co. to head a new field sales and service office in Syracuse, N. Y. As head of the Syracuse office, Schnall will report to the Buffalo branch office of General Controls, but will handle all sales and service matters on household and industrial controls in and around Syracuse.



Dean Products, Inc. has appointed **Robert H. Crowe** as their new representative covering Oklahoma, Texas, Arkansas, Louisiana and the city of Memphis, Tenn. He will also handle the counties of Warren, Hind, Rankin, Scott, Newton, and Lauderdale in Mississippi. He was manager of the refrigeration department of the N. O. Nelson Co. for the past seven years.



**Joe B. Chapman** has been appointed sales manager and assistant to the owner-manager of Barr Mfg. Co., Oakland, Cal. He was formerly associated with General Electric commercial refrigeration as manager for the northern California wholesale distributor. He will handle distribution of Barr's line of commercial walk-ins and reach-ins through the western states.



*Continued on page 113*



### in the new pour spout can . . .

- Easier to pour—less chance of spilling.
- Minimum pick-up of moisture when can is open.
- Positive seal when cap is replaced.
- Easier to open—easier to close.

PA-100, Davison's refrigeration grade silica gel, definitely has more capacity than any other commercial drying agent. And PA-100, being completely inert, cannot cause corrosion . . . actually helps prevent it by removing corrosive compounds from the system. There is no danger of PA-100 dusting, caking, deliquescing, or causing refrigerant channeling and other undesirable action.

Get PA-100 in the new easy to use pour spout can today. You will be getting the finest in refrigerant drying agents in the easiest and safest to use container.

Progress through Chemistry

**THE DAVISON CHEMICAL CORPORATION**

Baltimore 3, Maryland

Producers of: Catalysts, Inorganic Acids, Superphosphates, Phosphate Rock, Silica Gels, and Silicofluorides. Sole Producers of Davco Granulated Fertilizers.



**REVERE**

**DRYSEAL**

**REFRIGERATION TUBE  
HAS A "FLARE" FOR  
NOT SPLITTING!**

It's not just a flare, it's practically a certainty that you can flare Dryseal for compression fittings without splitting. The secret is its special temper and its ductility.

And because it is dead-soft Dryseal can be bent with the hands with little effort. Along with its workability is the assurance that when you take Dryseal from the carton it will be as bone-dry and dirt-free as Revere's most modern manufacturing methods can make it. The last step in the manufacture of Dryseal is the double crimping of both ends of the tube, so that Dryseal is sure to come to you free from dirt and moisture. And the double crimp is made in such a way as not to change the diameter of the tube so that it can pass through any opening large enough for the tube itself.

And, for your greater convenience, Dryseal is packed in a nifty-50, one-coil carton. This carton has been attractively designed for easy identification in stock and contains one 50-foot coil of Dryseal Refrigeration Tube, making it easier to handle, light weight and economical. Carton is sturdily made to assure protection of the tube.

**IN THE EASY-TO-HANDLE  
NIFTY-FIFTY...ONE COIL CARTON**



**REVERE**

**COPPER AND BRASS INCORPORATED**

*Founded by Paul Revere in 1801*  
230 Park Avenue, New York 17, N. Y.

*Mills: Baltimore, Md.; Chicago and Clinton, Ill.; Detroit, Mich.;  
Los Angeles and Riverside, Calif.; New Bedford, Mass.; Rome, N. Y.—  
Sales Offices in Principal Cities, Distributors Everywhere*

SEE REVERE'S "MEET THE PRESS" ON NBC TELEVISION EVERY SUNDAY



**HERE'S HOW  
TO STOP**



**"Low Oil  
Pressure"  
Damage to...**

**PRESSURE-  
LUBRICATED  
COMPRESSORS**

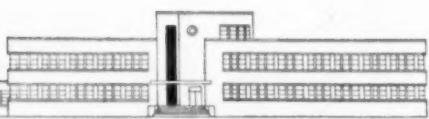
**...and make EXTRA PROFITS  
with the PENN Series 275  
Oil Protection Control**

Repair bills climb . . . time is lost . . . and your customers boil when *low oil pressure* or *slow pickup of oil pressure* occurs without warning in a pressure-lubricated compressor. Improper oil pressure causes damage to seals and bearings in even the best of refrigeration compressors.

Now you can stop this unnecessary and costly damage with the PENN Series 275 Oil Protection Control with the built-in Time Delay Switch.

Here's how it works! When compressor starts, if the oil pressure does not build up to the proper point within a safe time period, the PENN 275 stops the compressor *automatically* before damage can occur. If oil pressure drops below a safe minimum during the running cycle . . . and does not rise to normal within the time delay period . . . the control stops compressor operation. Thus, the compressor never operates more than the predetermined safe time on subnormal oil pressure. Result? Positive, automatic protection at all times!

Refrigeration men nation-wide are making big profits . . . and building prestige . . . installing this PENN oil-pressure "watchdog." You should investigate this new, low-cost protection for refrigeration compressors or for other pressure-lubricated equipment. For complete information ask your compressor manufacturer or wholesaler or write **Penn Controls, Inc., Goshen, Indiana.** Export Division: 13 E. 40th Street, New York 16, N. Y., U.S.A. In Canada: Penn Controls Limited, Toronto, Ontario.

**PENN**   
**AUTOMATIC CONTROLS**

FOR HEATING, REFRIGERATION, AIR CONDITIONING, GAS APPLIANCES, PUMPS, AIR COMPRESSORS, ENGINES

Circle No. 38 on Reader Service Card



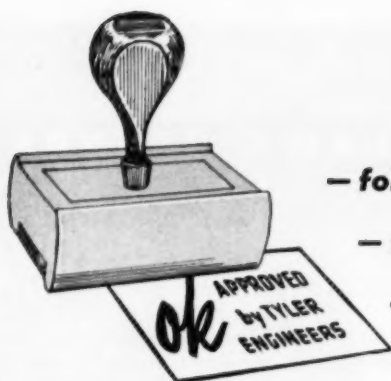
**MAKING IT EASIER** for shareholders to be users of air conditioning equipment is a new plan developed by Remington Corp. Herbert L. Laube, Remington's president, has announced that trade discounts ranging from 35 to 40% based on the shares they hold will be offered to shareholders who purchase 1953 console and window units for their own personal or family use. Shareholders may purchase direct from the factory as many dollars' worth of units as are represented by the par value of the shares registered in their names. Special prices include the five-year warranty, but not installation or one-year free service generally provided in dealers' retail prices. Arrangement has been made to supply these to shareholders at cost, it was stated. A major benefit of the plan, Remington believes, will be to familiarize its shareholders with the many benefits of room air conditioning, and make them amateur salesmen for the industry's products.

**A NATIONWIDE SURVEY** to determine the fluctuation in home electric power consumption over a 24-hour period has been proposed by the General Electric Co., with the cost to be shared by G-E and the power industry. Clarence E. Linder, G-E vice president and general manager of the major appliance department, says that such data, on a national basis, "is necessary for an effective load-planning effort" by the utilities. He gave no estimate of the possible cost, but said G-E has engaged the services of an engineering firm to make a study to determine just what information, techniques, equipment, time, etc. will be required for the survey.

**KEY TO QUALITY** in tomatoes that are ripened after harvest is the temperatures at which they are held, USDA plant scientists report. Ideal shipping temperatures are between 55 and 65 F, the scientists report. Low temperatures that would benefit many other fruits and vegetables damage tomatoes, they find. Chilling at 32 F for six days or at 40 F for nine days causes losses, and becomes more serious with longer exposures, they say. And temperatures above 70 F favor the development of certain types of decay, especially the soft rots. Tomatoes cooled too low will ripen slowly, have inferior flavor, and pale or mottled color, the USDA men report.

**SCHOOLS ARE LIKELY** prospects for air conditioning equipment in the not too distant future, in the opinion of Henry Wright, consultant engineer and architect. The school heating problem is really a cooling problem, he believes, as the result of three main factors: the solar gain, the heavy occupancy and the fact that the occupancy is intermittent. Because of extensive glass areas in the modern school building, and the occupancy load, will require cooling during most of the school hours, 9 a.m. to 3 p.m. Wright believes that eventually temperature control in schools will be recognized as being as important to education as lighting has now become.

**RECENTLY ISSUED STATISTICS** throw a rather interesting light on the distribution of household refrigerators in Europe. While there is about one household refrigerator for every 30 persons in the United States, the ratio is only about 400 to one in France. However, the production of refrigerators in France is increasing rapidly, and there are now 20 different companies marketing 37 absorption models, and 21 companies selling 35 compression models there. In Switzerland, there are about 130,000 electric refrigerators in operation, consuming 50 million kilowatt-hours of power. The market there is considered to be only about 10% saturated (compared with 89% of the United States market), but as many as 43 companies reportedly market 180 models of household cabinets and freezers.



— for maximum refrigeration efficiency!

— for low cost of operation!

— for dependable service!

# TYLER *Balanced Systems*



**TYLER DISPLAY CASES**—precision-built, properly insulated, sealed, coiled and equipped with features like Tyler Automatic Defrost, High Level Refrigeration, many others!



**TYLER CONDENSING UNITS**—whether installed in self-contained cases by Tyler or on the job by the local Tyler Agent, they're specified to provide balanced systems!

Tyler is now furnishing Tyler Condensing Units, developed for use with Tyler commercial food refrigerators and refrigerated display cases—to give you truly **BALANCED** refrigeration SYSTEMS.

This *balancing* of the low side (cases) and the high side (condensing units) of the refrigeration circuit means that you

get the right system for the job. You get dependable refrigeration for your customers—at lowest possible cost.

With Tyler Balanced Systems you can now depend on Tyler for the complete refrigeration set-up—with the entire Tyler organization ready to back up the installation.

TYLER FIXTURE CORPORATION, NILES, MICHIGAN

Tyler Fixture Corp., Dept. RI-4 Niles, Michigan  
Send information on new Tyler ☐ Condensing Units  
☐ Open Display Cases ☐ Service Cases ☐ Refrigerators ☐ Coolers ☐ Storage Freezers.

NAME

ADDRESS

# TYLER

the most  
complete line  
of food store  
equipment.

Circle No. 39 on Reader Service Card

JUNE, 1953 • COMMERCIAL REFRIGERATION

## *To help you sell . . .*

. . . more refrigeration and air conditioning equipment to your customers and prospects in restaurants, hotel dining rooms, cafeterias, drive-ins, bars and taverns, and other food service locations, here are 101 IDEAS that successful food merchandisers have used to increase their business volume and their profits.

We believe you'll be able to suggest many of these ideas to Food Service establishments to help them use their refrigeration equipment more effectively, and encourage them to add new equipment to increase their future business volume. You'll also be able to show them how to merchandise their businesses to attract more customers and make more money.

These 101 Ideas have been carefully selected and condensed to make them as useful to you as possible. Clip and save them—you'll find many uses for them in your sales work.

We are indebted to leading magazines in the Food Service Field for their cooperation in permitting us to digest and present in this issue information originally appearing on their pages.

—The Editors





1

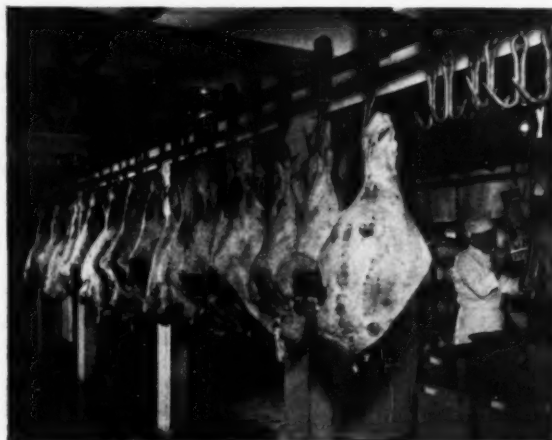
**AIR CONDITIONING** and electric cookery are excellent working partners in the modern food service establishment. Advantages of electric cookery in relation to the operation of an air conditioning system include: no moisture as a by-product of cooking, making humidity control easier and less costly; less heat load because there is less heat loss from electric cooking equipment; no odors and fumes from combustion to get into the air and complicate the air conditioning equipment's job in this respect.

*(Food Service, April, 1953)*

2

**ADEQUATE COOLER SPACE** is an essential for the industrial food service operation, just as it is for any other large scale food service establishment. Such facilities make possible the most advantageous purchasing of meats and other perishables in bulk quantities.

*(American Restaurant, Feb., 1953)*



3

**INSTALLATION OF TWO** automatic continuous fountain freezers to handle all fountain dishes, replacing the hand dipping of hard ice cream, has enabled the proprietor of a Seattle, Wash., restaurant to build his fountain sales up to 60% of his gross business, where previously they had been subordinate to the food side of the operation. One of these machines is devoted entirely to making milk shakes and malts, with the temperature so controlled that the product is drawn at the proper consistency for immediate serving. The second freezer makes a soft-served product for ice cream dishes.

*(Fountain & Fast Food, Jan., 1953)*



**4** DOUBLING THE AVERAGE meal check has been one result of the display refrigerator installed behind the counter of a Seattle, Wash., snackbar. The owner reports that instead of "just the plate lunch", customers include a fruit salad or a gelatin dessert in their order now that they can see these items temptingly displayed in front of them. The display case also has upped sales of such items as cold meats and canned fruit juices on the same "impulse" basis.

*(American Restaurant, March, 1953)*

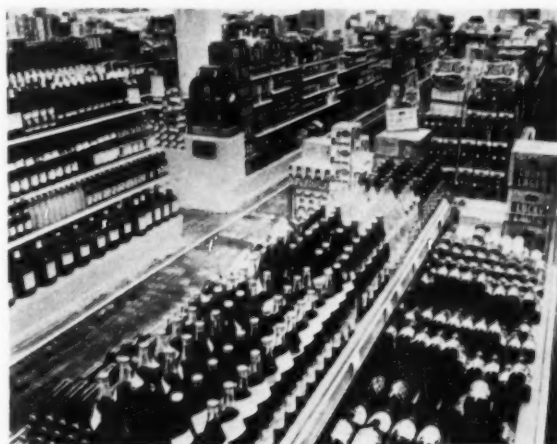


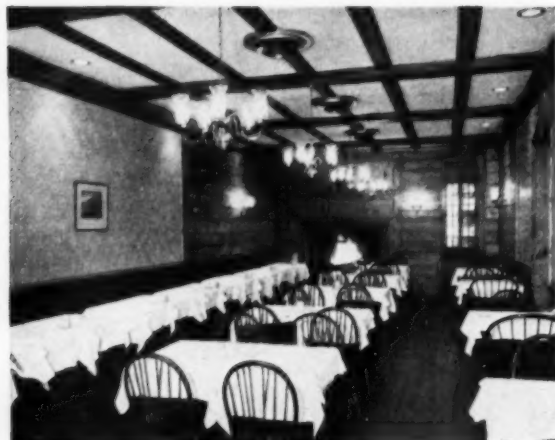
**5** A SPECIAL ROOM devoted to the production of ice cream is indicative of the emphasis which one large hotel places upon this phase of its food preparation. Equipment includes two 40-quart ice cream machines and a holding cabinet with 26 containers.

*(Hotel Monthly, Jan., 1953)*

**6** BEVERAGE SALES ZOOM when they go self-service, many operators of such places have found. One operator in Elko, Nev., for example, installed two self-serve beverage cases and made them the center of his soft drink and beverage display. Customers not only appreciated the convenience of being able to get their favorite beverages, cooled to their liking, but adding the refrigerated service increased sales of surrounding non-refrigerated beverages as well.

*(Photo from Sherer-Gillett Co.)*





**7** YEAR-AROUND AIR conditioning is a feature of this Baltimore, Md., restaurant, even to the powder rooms. The system is zoned so that each room is serviced by its own independent system of supply ducts and returns, maintaining desired temperatures according to customer load. The zoning also provides insurance against breakdowns of the entire system. Also, the conditioning system for any one room can be shut down completely when that room is not in use.

*(American Restaurant, April, 1953)*

**8** PASTRY VOLUME IS STEPPED UP considerably in the coffee shop of a Kansas City, Kans., hotel by a hostess who passes among patrons periodically with a tray containing 15 assorted French pastries. The power of suggestion has proved to be a potent sales aid, but these pastries are not "pushed" in any way. In this operation, courtesy is made paramount, pastry sales secondary.

*(Fountain & Fast Food, March, 1953)*



**9** HANDY FOR PICK-UPS by waitresses is this self-service meat case which has been adapted for use as a salad and first-course dispenser in the kitchen of an Atlantic City hotel. The open top of this case makes it possible for the foods to be kept chilled to the desired temperature, while at the same time making them readily available for one-handed pickup by the waitresses as they pass from the kitchen to the dining area.

*(Photo from C. V. Hill & Co., Inc.)*



**10**

**MILK SALES ZOOMED** when a Fort Worth, Tex., restaurateur installed this refrigerated milk dispenser. It's his newest piece of equipment, and one of his favorites. Besides bigger milk sales, he has had many good comments from customers. He says it saves much space that formerly was required for bottle storage, and that it helps his over-all sanitation maintenance, too.

*(Food Service, Dec., 1952)*



**11**

**STAINLESS STEEL DOOR** of the produce cooler indicates the proximity of this refrigerated area to the vegetable preparation room of this modern new hotel. This means that a minimum of time and effort is expended in converting fresh or frozen produce into table-ready side dishes.

*(Hotel Monthly, Jan., 1953)*

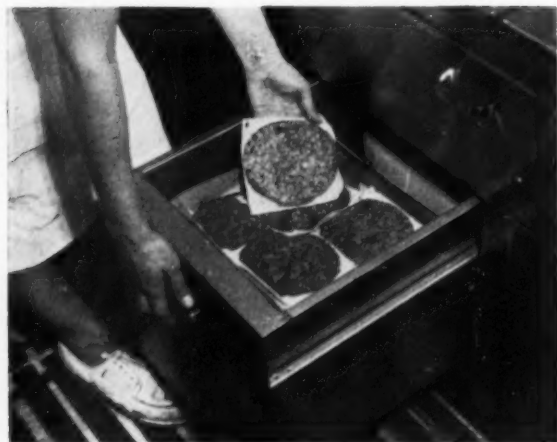
**12**

**LIKE A MAGNET** this brightly illuminated display case draws the attention of patrons in this Scranton, Pa., grill to the restaurant's "take home" service. This booming business-builder was developed to combat the slack in dinner trade as a result of increasing television appeal and parking problems. Aggressive merchandising of this service is building the grill's revenue to new high levels.

*(American Restaurant, April, 1953)*





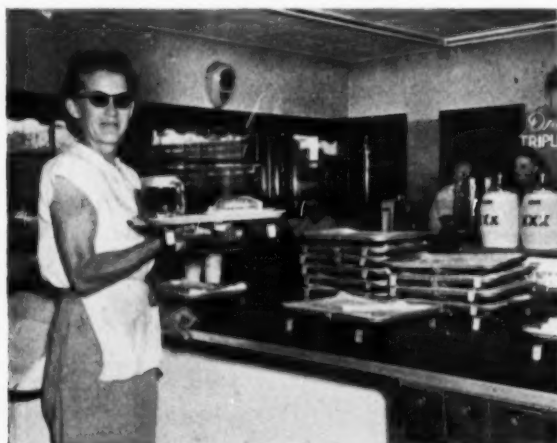


**13** A REFRIGERATED DRAWER conveniently located beneath the grill is used for storing pre-pattied hamburgers in a Seattle drive-in. This arrangement greatly speeds preparation, and enables cooks to handle a greater volume of rush-hour business.

*(American Restaurant, Jan., 1953)*

**14** NEWEST IDEA in office catering is the boxed lunch, housed in a sturdy, attractive, imprinted cardboard "lunch pail", which is put out by an East Coast luncheonette chain. This easy-to-carry container neatly holds a paper drink cup of hot coffee, paper cup of cold orange drink, and a sandwich wrapped in waxed paper.

*(Fountain & Fast Food, April, 1953)*



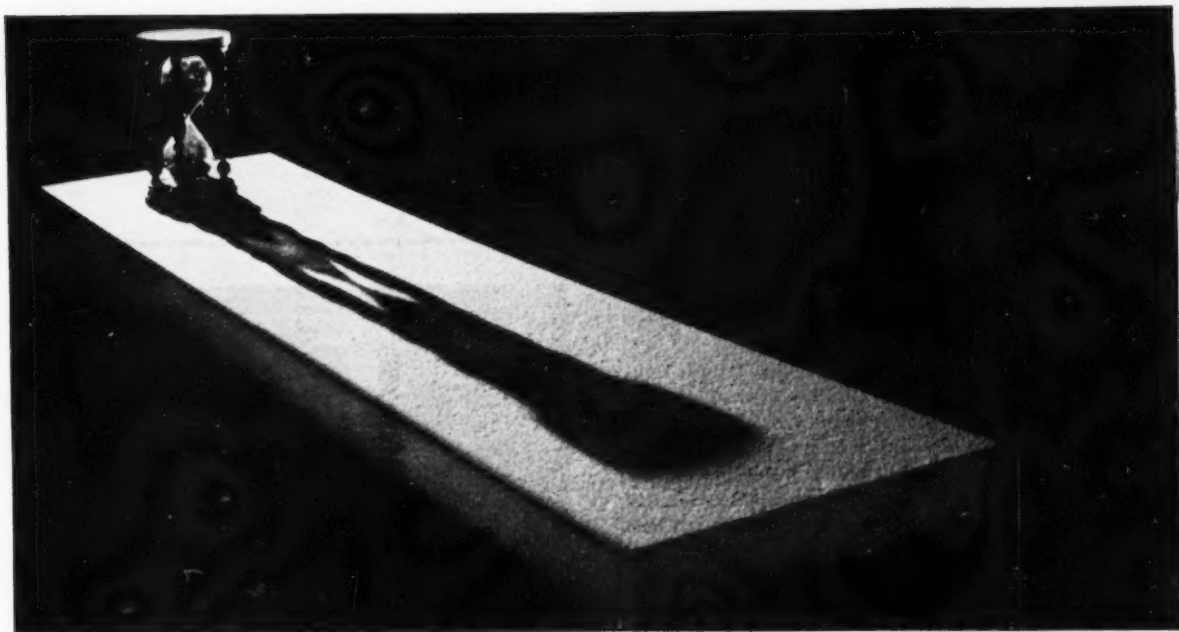
**15** STACKING SERVICE TRAYS conveniently at the car hop service area has proved to be a big time saver for a Spokane, Wash., drive-in. It also eliminates the confusion of cross-traffic behind the counter. This handy arrangement saves steps for car hops, and keeps a steady flow of orders moving smoothly.

*(Fountain & Fast Food, April, 1953)*



# 4 REASONS FOR STYROFOAM'S LONGER INSULATION LIFE

Easy-to-install, feather-light STYROFOAM resists water vapor, mold and rot... has high structural strength



The Dow Chemical Company  
Plastics Department, PL 1488, Midland, Michigan  
Please send me your booklet containing information on Styrofoam, the most nearly perfect low-temperature insulation material.

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Styrofoam® is unique in possessing so many of the characteristics desired in low-temperature insulation. Styrofoam offers exceptional resistance to water vapor with low thermal conductivity. Styrofoam (now polystyrene expanded approximately 40 times) has countless individually sealed cells that bar the passage of water without swelling or softening. Styrofoam lasts indefinitely because in addition to high structural strength averaging 20 lbs. per sq. inch, it resists rot or fungus growth, and has no food value to attract rodents or vermin.

You'll save considerably on labor costs when you install lightweight Styrofoam because it is not only easy to cut into desired shapes with ordinary woodworking equipment, but is also easy to handle and install.

Laboratory and field performance tests have shown that Styrofoam is the most nearly perfect low-temperature insulating material yet developed. Investigate it thoroughly if you are interested in insulation for cooler and freezer rooms or refrigerated trucks, railroad cars or ships. Write today for the free Styrofoam data booklet containing further information on how Styrofoam delivers exceptionally effective insulation at an extremely low cost per year of service life. THE DOW CHEMICAL COMPANY, Plastics Department, Midland, Michigan.

you can depend on DOW PLASTICS





**16** **THREE MICROPHONES** are suspended over the backbar of this hotel coffee shop, through which waiters call their orders to the kitchen. At the left of the microphone in the foreground is the signal board which calls waiters when orders are ready.

*(Hotel Monthly, Sept., 1952)*

**17** **5000 PIZZA PIES A WEEK** are turned out by this Baltimore, Md., restaurant, most of them for the take-home trade. This tremendous volume has been made possible only through the installation of a 500-cu.ft. walk-in food freezer which makes it possible for the management to prepare the pies in quantity and hold them for future sale. The freezer is of the sectional type so that it can be readily expanded if an increased volume of business should make additional storage space necessary.

*(Photo from Reco Products Div.)*



**18** **INSTANT DISPENSING** of milk shakes and malted milks is made possible by this handy juxtaposition of equipment. A "Lowerator" device for automatic storage and dispensing of glasses is placed right alongside the machine for mixing the malts and shakes.

*(American Restaurant, Jan., 1953)*



**19** ORDER WHEELS like the one shown in this Phoenix, Ariz., drive-in, ensure orders being filled in the exact rotation in which they were placed. Waitresses simply place order slips in the clips at the top of this wheel and each one is filled in turn by the kitchen as the wheel is revolved. This system has been found to speed service and eliminate confusion.

(*Fountain & Fast Food, Feb., 1953*)



**20** PLENTY OF STORAGE in refrigerated under-counter areas is a distinguishing feature of the backbar lineup in a new short-order restaurant in Milwaukee. Right and left sides are identically equipped to eliminate cross-traffic — and to allow patrons to be served within two minutes of the time they sit down. Equipment includes a refrigerated milk dispenser and orange juice dispenser, besides normal and low-temperature storage areas under the counter.

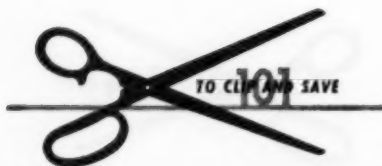
(*Food Service, Jan., 1953*)

**21** HERE'S A NEW ANGLE which has resulted in greatly speeding food service in a new Chicago short-order restaurant. The angled serving counter, topped with stainless steel, which extends into the lower right corner of this photo, was deliberately placed "on the bias" in the food preparation area so as to facilitate order pick-ups, speed service to customers, and minimize confusing kitchen traffic.

(*Photo from Leitner Equipment Co.*)



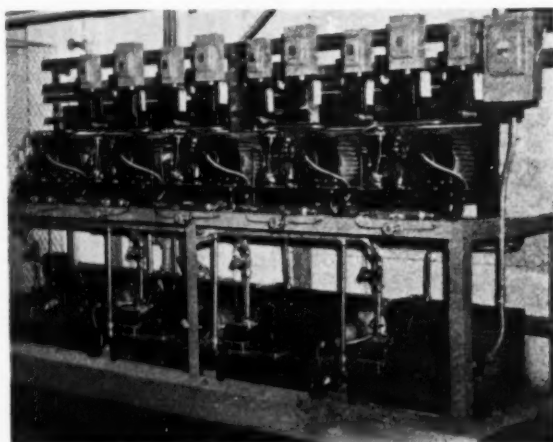




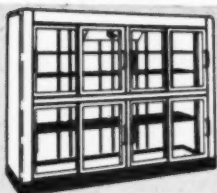
**22** **CONSTANT SUPPLY OF GLASSES** for immediate water service is ensured in this big-city luncheonette operation by having an automatic glass washer located right alongside the waitress water station. This convenient arrangement speeds service, helps keep customers happy.  
(*Fountain & Fast Food, April, 1953*)

**23** **NEATNESS AND CLEANLINESS** pay off in the machinery room as well as in the kitchen, one Kansas City hotel has found. All refrigeration compressors for the hotel's food service facilities are mounted on this double-deck rack to facilitate cleaning and maintenance.

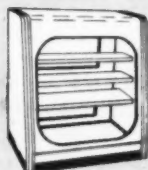
(*Hotel Monthly, Sept., 1952*)



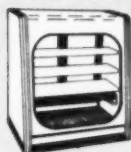
**24** **ONE HUNDRED SIGNS** along the highway leading to this drugstore in a little South Dakota town announce the fact that the store offers a bountiful supply of ice and ice water to motorists — absolutely free! And this simple promotion has enabled this store to boast of serving nearly 500,000 customers annually in a town with a population of merely 500. The automatic ice maker which was responsible for this business boom was installed in a prominent location alongside the soda fountain where it can be plainly seen by every customer.



DAIRY & BEVERAGE  
WALL CASE



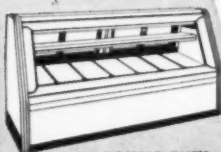
LOW TEMPERATURE  
FULL VISION DISPLAY



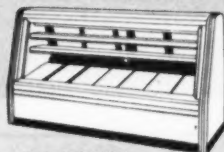
SPOTLIGHTER  
FULL VISION DISPLAY



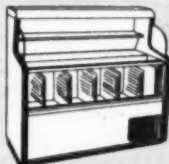
FRONT SERVICE  
DISPLAY CASE



DOUBLE DUTY  
BUTCHER CASE



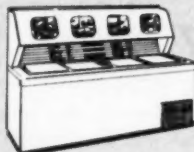
DOUBLE DUTY  
DELICATESSEN CASE



FROZEN FOOD MERCHANDISERS



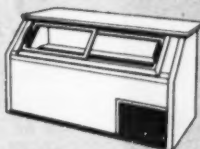
FORMICA TOP COUNTER  
& DISPLAY CASE



ANGLE FROZEN FOOD  
MERCHANDISER



COMMERCIAL  
STORAGE FREEZER



"MAKING SALES" IS NOT ENOUGH...

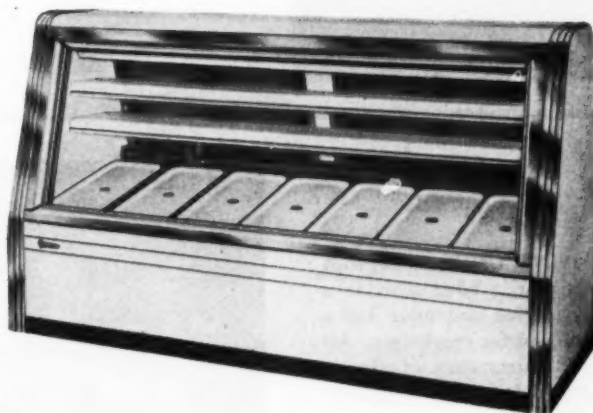
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UP

WITH

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FEATURE THE LINE THAT GIVES YOU A  
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THAT MAKE CUSTOMERS BUY!



DOUBLE DUTY  
DELICATESSEN CASE  
Model DLB-8

Features sell Delicatessen Cases and no other line gives you as many as Coldin. There are at least a dozen-and-a-half features which make Coldin cabinets and absolute!

Here's the Delicatessen Case that is no "slow mover" to clutter up inventory or require cut-price sales.

A modern gleaming white beauty with handsome stainless steel trim, front and rear. Everyone a triumph of engineering efficiency.

These days your operating costs are higher — so you need the higher profit. Coldin offers the bigger pay-off on every sale. Important, too, you need the selling advantages Coldin gives you... the Coldin reputation for quality... the more-for-the money features that clinch sales on your floor.



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BETTER REFRIGERATION

DEALERS — WRITE FOR CATALOG AND INFORMATION

**COLDIN CABINET CO. INC.**

2800 Webster Ave., N. Y. 58, N. Y. • CYPRESS 5-3311



**25** REFRIGERATED FACILITIES are essential to the maintenance of the colorful, tempting food displays with which one of the nation's largest industrial food services whets the appetites of plant workers in 26 states. This firm's success provides still another proof of the fact that "impulse buying" plays an all-important role in building food service profits.

*(American Restaurant, Feb., 1953)*

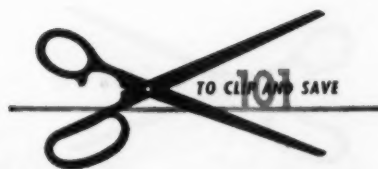
**26** DUPLICATE SERVING UNITS in the soda fountain of a St. Louis hotel provide a maximum of service for customers and a minimum of confusion for employees. All equipment is fabricated of stainless steel. Coffee is brewed at the counter in individual glass units. Illuminated cases at each end of the backbar contain attractive displays of all popular dry cereals in individual packages.

*(Hotel Monthly, Sept., 1952)*



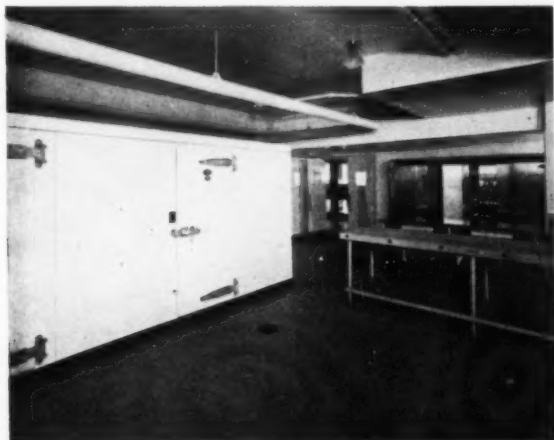
**27** AIR CONDITIONING has come to be a virtual "must" for any successful eating establishment. The competitive situation has made this almost axiomatic, for if a restaurant doesn't offer comfortable dining conditions its patrons will simply take their hot-weather business to an establishment which does. For this reason, air conditioning can be one of the biggest business builders for any eating place. Careful records kept by the proprietor of this Hamilton, Ohio, dining room, for instance, indicated that the installation of air conditioning actually increased his summer business by 100%.

*(Photo from Frigidaire Div.)*



**28** COLD FOOD COLD is the slogan of the food service department in a leading Kansas City hotel. To emphasize the importance of holding and serving foods at proper temperatures, this slogan is boldly emblazoned in large letters upon the face of all refrigerated equipment in the hotel's banquet kitchen. The management is equally insistent upon serving hot foods hot.

(Hotel Monthly, Sept., 1952)



**29** CENTRALLY PLANNED KITCHEN facilities are virtually a "must" where large numbers of persons are to be served quickly and efficiently. This is particularly true in school cafeterias, where the time allotted for eating is limited. A large high school in Milwaukee uses a novel installation in which food taken from the kitchens' walk-in units for preparation is stored for quick service in "pass-through" refrigerators from which cafeteria attendants take it just before and during service hours. The cafeteria serves 600 students per day.

(Photo from Federal Refrigerator Mfg. Co.)

**30** CURED MEATS NEED refrigeration just as much as do fresh meats, but many food service operators haven't as yet been educated to this fact. It is a common misconception that cured meats will "keep" at ordinary room temperatures. The operator who fails to refrigerate his cured meats, just as he does his fresh meats, is running the risk of allowing these foods to become contaminated and unfit to eat. Food poisoning may result. Proper refrigeration can save food spoilage and even more important assure that only prime quality foods are served to patrons.

(Food Service, March, 1953)





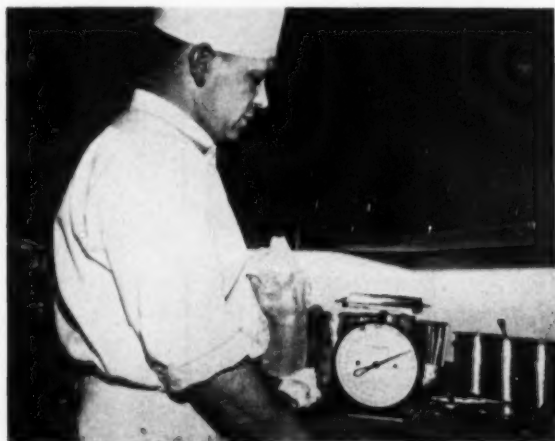


**31** **TAKE-HOME SERVICE** by restaurants is on the increase, due to TV and other things. Alert restaurant operators can use refrigeration equipment to help them make extra profits in this field. Many of the foods shown here, for example, can be pre-cooked and frozen. The customer then takes them home, and reheats them in the oven before serving. Sauces, etc. for take-out service also require refrigeration after they are made.

(Food Service, Nov., 1952)

**32** **DISHWASHING MACHINE** puts on a good show for customers of one restaurant in a Chicago railroad terminal, as it washes and scald-rinses with the mere press of a button. Letting the customers actually see this operation has put the "clincher" on this restaurant's much-advertised sanitation program.

(Fountain & Fast Food, April, 1953)

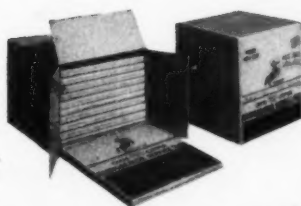


**33** **STRICT WEIGHT CONTROL** of every portion served has proved the path to profit for the operator of a Seattle, Wash., restaurant. To accomplish this precise measurement, he installed a scale in the food preparation department, so that weights of all servings of meats, salad ingredients, etc., may be carefully checked and held to the close tolerances prescribed. As an example of what this ingredient control means, this operator knows that if he uses 2 ounces too much of apples in each of 150 pies he has wasted 18 pounds of fruit, and this loss will be reflected in his profit picture.

(Fountain & Fast Food, Jan., 1953)

For handy  
50 foot coils

get **Chase**<sup>®</sup>  
copper refrigeration  
tube



What could be handier than a 50-foot coil of dehydrated Chase Copper Refrigeration Tube! It comes in all standard sizes from  $\frac{1}{8}$ " to  $\frac{5}{8}$ " and is packed in individual boxes and cartons ( $\frac{3}{4}$ " diameter is supplied in bulk).

Chase Refrigeration Tube has a uniformly soft anneal so that it can be easily bent. Its flat, double-layer coil makes it compact. Saves space in shipping and storing.

Write today for Free illustrated Book on Chase copper tube and solder-joint fittings for refrigeration and air-conditioning.



**Chase**  **BRASS & COPPER**

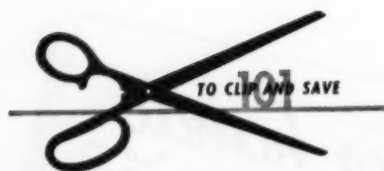
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Chicago	Houston	Newark	Rochester †	
Cincinnati	Indianapolis	New Orleans	St. Louis	(† sales office only)

Circle No. 42 on Reader Service Card

and AIR CONDITIONING • JUNE, 1953

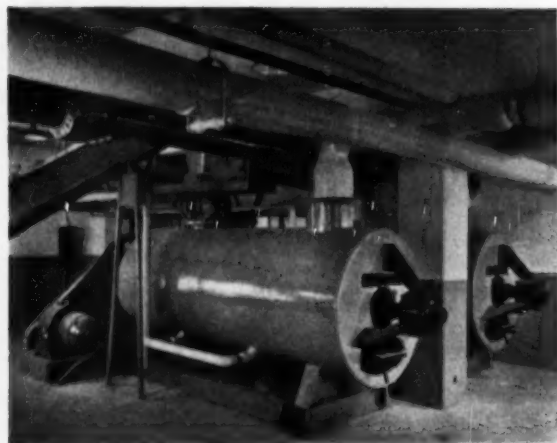


**34** **THAT OLD SAW** about "monkey sees, monkey does," has a lot of truth in it. That's one reason why counter cooking is on the increase in restaurants all over the country. Patrons see foods being fried, they see others eating fried foods — and pretty soon they place their own order for fried food, too. Electric counter cooking equipment can make many "plus" profits for refrigeration men selling the food service field.

(*Food Service*, Nov., 1952)

**35** **KEEPING THE KIDS** "out in the open" is the best way to control youthful capers, believes the proprietor of a Green Bay, Wisc., sweet shop which makes a practice of catering to the town's younger citizens. Shallow wall booths which can be kept under continual surveillance, and plenty of low, Formica-topped counters help in this aim.

(*Fountain & Fast Food*, Jan., 1953)



**36** **PROCESSING GARBAGE** in dehydrating machines can enable the larger institutions to get away from messy, unsanitary garbage handling procedures. Machines such as this are fed with garbage by a conveyor belt. They dry it with steam at about 340 F for approximately 8 hours. During this process a rotating drum equipped with baffles not only speeds the drying but also breaks the refuse into smaller particles. The residue then can be dumped, bagged, and sold for fertilizer.

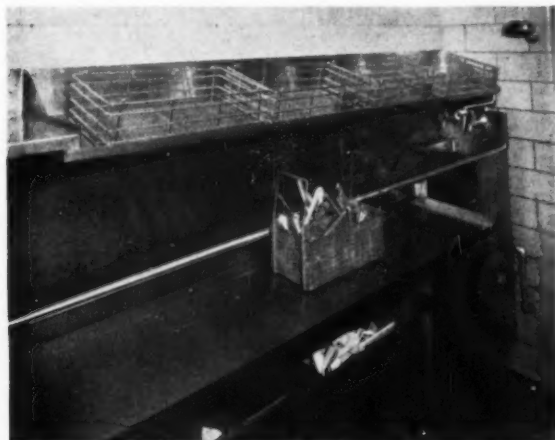
(*Hotel Monthly*, Jan., 1953)



**37**

**MODERN EQUIPMENT** used wherever it will save time and labor is a "must" for the efficient hotel kitchen. In the butcher shop, for instance, equipment of this nature makes possible the production of all meat dishes with a maximum amount of speed and efficiency with a minimum amount of waste.

*(Hotel Monthly, Jan., 1953)*



**38**

**A DROP TABLE EQUIPPED** with a conveyor belt was installed in this hotel so that soiled dishes from the coffee shop could be deposited here and carried directly to the main dishwashing table. This conveyor is located right beneath the beaded edge of the counter in the foreground. Silver in baskets is placed on the counter and glasses in baskets on the tilted shelf above. When baskets are full they are put on the conveyor belt which runs continuously through hot water and a cleaning solution so that it will always be kept sanitary.

*(Hotel Monthly, Sept., 1952)*

**39**

**CRISP, FRESH INGREDIENTS** for such "specialties of the house" as Antipasta Paolucci, Chicken Cacciatore, Lobster Fra-diavola, and Scallapini Magerita are a "must" in this intimate family-owned restaurant in the heart of New York's "Little Italy", for it is on the outstanding quality of such dishes that this establishment has built its reputation. "Without the ample commercial refrigeration facilities which we have installed," the owner declares, "we would be unable to maintain the high quality of our food and our service on which our patrons have come to rely."

*(Photo from Glascock Bros. Mfg. Co.)*







**40** **RELISH TRAYS** which offer nine different Smorgasbord garnishes are circulated among customers of a San Francisco short-order restaurant which specializes in deluxe hamburger orders. Not only does the garnish tray delight the customer with its assortment of relishes, but it actually helps cut labor costs by saving the cook's time in determining the customer's preference in "trimmings". Customers are better satisfied, too, for they can add just what they like in exactly the quantity they desire. The restaurant keeps 15 of these trays circulating in its 12 booths and along the 15-stool counter.

*(Fountain & Fast Food, Feb., 1953)*

**41** **SELF-SERVICE** has been making notable strides in another segment of the food service field, the modern beverage carry-out store. A new "beer depot" recently opened in Milwaukee is designed for complete self-service, even to shopping carts similar to those used in food markets. Large self-serve refrigeration facilities are required to supply customers with chilled beverages in any desired quantity. This store uses three sliding-door cases which stretch clear across its side wall.

*(Photo from Federal Refrigerator Mfg. Co.)*



**42** **DOUBLE PLATE GLASS WINDOWS** in the reach-in refrigerator installed in this hotel kitchen pantry help make for speedier, more efficient food preparation and service. Workers in the pantry can see at all times what types and what quantities of perishable dishes have been prepared and are ready for service.

*(Hotel Monthly, Sept., 1952)*

# Put **SOCK** in your sales



with the  
mighty new  
**CHAMP**  
of 1953

The little fighter with the high-capacity punch

**THE POWERFUL NEW TEMPRITE**

## **BANTAM-100 CARBONATOR**

**FULLY AUTOMATIC**, delivers up to 100 gallons per hour of highly carbonated water. Use with any type cooling system!

**EASY TO HANDLE**; pump and motor, relay and carbonator assembled together for easiest possible installation!

**EASY TO SELL** because of high capacity operating efficiency! Soda fountains, roadside stands, restaurants, bars and taverns; they're all ready for Temprite's Bantam-100!



Weights only 28 lbs.  
Measures only  
13½" long,  
9½" wide, 12" high!



Self-Contained  
Water Coolers



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Water Coolers



Cooler  
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Liquid Coolers



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Separators



Beer  
Coolers

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City \_\_\_\_\_ State \_\_\_\_\_

Circle No. 43 on Reader Service Card



**43** FROZEN DELICACIES like ice cream pie can be made a feature attraction by the hotel or restaurant which has the proper equipment and facilities for producing and storing these extremely perishable specialties.

*(Hotel Monthly, Jan., 1953)*

**44** ADVANTAGES OF GROUND FLOOR kitchen operation are typified in this new hotel where supplies received at a dock on the kitchen floor level are checked, then delivered on hand trucks to refrigerated storerooms on this same level. This arrangement is an important factor in the preparation of meals on an assembly-line basis.

*(Hotel Monthly, Jan., 1953)*



**45** BED OF SNOW cold plates, in which food pans rest in a bed of snow, are coming into increasing use in the better type restaurants. The cool, snowy background makes an attractive setting for a colorful array of foods, and makes even the most tempting food appear even more inviting. Restaurant operators find that these cold plates eliminate the muss and fuss of cracked ice; plates are easy to frost and defrost; and may be built in virtually any desired shape.

*(Photo from Dean Products, Inc.)*

**(More "Ideas" on page 118)**



## "This is wonderful stuff!"

This stuff, as the man calls it, is Permagem. It's the sealing compound which maintenance and service engineers prefer for sealing cases, inspection plates, pipe openings. They know this is the ideal way to stop customer dissatisfaction before it can start, because moist air permitted to seep into a cabinet can cause condensation as well as a host of untold complications.

This serviceman is using brown Permagem, which comes in 2½ lb. and 45 lb. slugs. This heavy-duty sealer will adhere to any dry surface and will never harden, staying plastic from 0° to 350°F. There is also gray-white Permagem, which comes in 80 ft. rolls of ⅜" cords. It is odorless; it never hardens; it can be painted immediately. It is also ideal for sealing around wires, since it

won't attack rubber insulation.

Your wholesaler stocks Permagem. Or write **VIRGINIA SMELTING Co., Dept. 64, West Norfolk, Va.**

**VIRGINIA**  
*Refrigerants*

ESOTO • V-METH-L • KINETIC CHEMICAL'S "FREONS"  
CAN-O-GAS • PERMAGUM • PRESSTITE TAPE  
SOLVEX PRODUCTS • SUNISO REFRIGERATION OILS

Circle No. 44 on Reader Service Card



*Presenting Honeywell's*

# New all-year residential

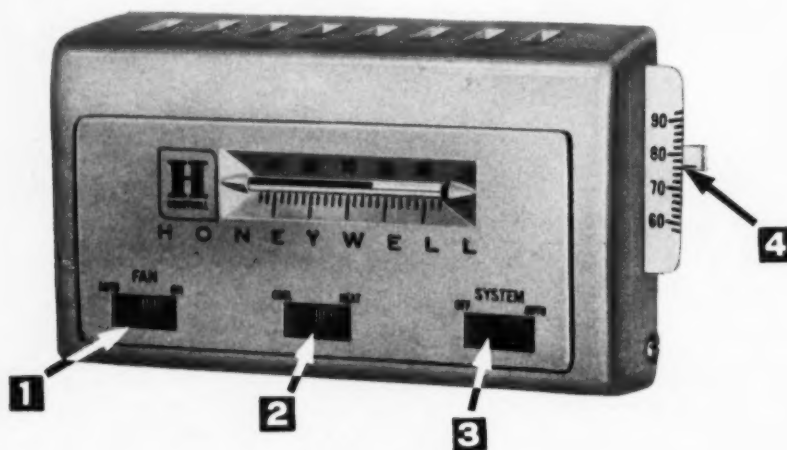
The first standardized Control Package for residential heating and cooling systems is now available!

Designed and engineered by Honeywell, it consists of the completely new T830 combination heating-cooling thermostat and the W203 control panel, which provide complete year-round control of the heating and cooling system in a single pre-assembled unit!

Honeywell's Air Conditioning Control Package is designed for universal application, either on a combination heating-cooling unit, or on an "add-on" cooling unit for an existing heating plant. It controls heating and single or two-stage cooling unit with 2, 3 or 5-ton capacity, single phase, and up to 7½-ton capacity, three phase.

It's designed to greatly simplify installations and wiring procedures and to ease your stocking problem, because much of the accessory equipment is pre-installed and wired right in the panel.

Improve your air conditioning work with this fine Honeywell Package. It's easier to install—there's less equipment to stock—and you will be giving customers a fine quality system that will perform accurately and dependably. Be sure to specify the new Honeywell Control package when you order your air conditioning units. For separate thermostats and panels contact your wholesaler or one of Honeywell's 104 sales offices. If you prefer information by mail, send the coupon below for a complete catalogue.



## New T830 Year-Round Air Conditioning Thermostat

Here it is—Honeywell's new combination heating-cooling thermostat that can be a major selling feature on your year-round air conditioning installations.

This remarkable new precision thermostat allows the homeowner to completely control the heating, cooling and fan units of his air conditioning system from his living room!

Dealer advantages are just as outstanding! Honeywell designed the T830 for simple installation and easy service. Although completely new and modern in design, the T830 utilizes a thermostatic bimetal element that's been proved over the years and thus is familiar to every service man.

This new thermostat comes in three different models: T830A—heating and one-stage cooling (with Honeywell W203A panel); T830B—heating and two-stage cooling (with W203B panel); T830C—direct heating and one-stage cooling control without panel.

### 1. Fan Control

—allows choice of "automatic" fan control or continuous ("on") fan operation.

### 2. Cool-heat

—permits owner to select heating or cooling—*whenever* he wishes.

### 3. System Control

—allows owner to turn both systems off from his living room.

### 4. Temperature Selector

—new type temperature slide allows easy selection of desired temperature.

Circle No. 45 on Reader Service Card

# air conditioning control package

## New Honeywell Heating-Cooling Control Panels

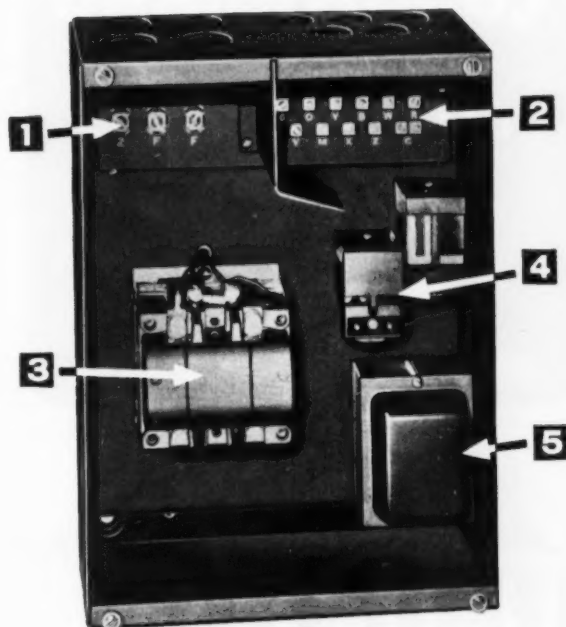
These new Honeywell panels provide complete year-round control of the heating and cooling system in a single, pre-assembled unit.

Both panels have terminal connections for accessory equipment such as damper motors, solenoid valves and refrigeration pressure controls. Each is 12" high x 9½" wide x 4¼" deep. This compact size makes either panel easy to mount in most any cooling cabinet.

These new Honeywell panels were designed primarily for use with the new Honeywell T830 heating-cooling thermostat, but may be used with other standard heating and cooling thermostats. Both panels have provision for constant fan circulation.

### W203A Panel—for heating and one-stage cooling

1. Line voltage terminal panel for connections to fan and ground.
2. Low voltage terminal panel for ease of wiring to thermostat, heating equipment, damper motor and auxiliary refrigeration controls.
3. Motor contactor or starter with terminals to connect power supply and compressor.



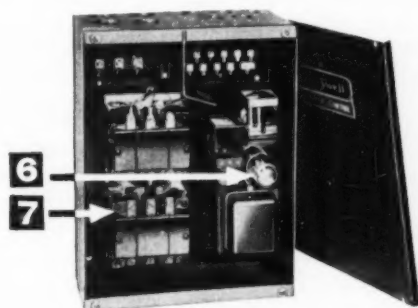
W203A Panel

4. Relays to operate fan and interlock heating and cooling section.
5. 24-volt transformer provides ample capacity to operate heating control and auxiliary equipment.

### W203B Panel—for heating and two-stage cooling

Includes all the features of the W203A above, plus:

6. Time delay to prevent both compressors from starting at same time, thus overloading power line.
7. Second stage contactor to operate second compressor on two-stage cooling unit.



W203B Panel

MINNEAPOLIS  
**Honeywell**



*First in Controls*



Minneapolis-Honeywell  
Dept. CR-6-143, Minneapolis 8, Minnesota

Gentlemen: Please send me the new Honeywell catalogue: Heating-Cooling Controls for year-round residential air conditioning.

Name

Firm Name

Address

City  Zone  State

# Residential AIR CONDITIONING

*Without  
Water!*



## UNICON

by **KRAMER**

A Remote Type Air-Cooled Condenser  
that completely eliminates water, sewerage  
and plumbing problems.

SPECIFICALLY DESIGNED FOR  
RESIDENTIAL APPLICATION

*Unusually Quiet!*

WRITE FOR BULLETIN No. U 250

**KRAMER TRENTON CO.**  
Trenton 5, N.J.

Circle No. 47 on Reader Service Card



Mr. A. Gordon Janney (left), President of The Baltimore Cold Storage Company, discussing installation of corkboard insulation with Mr. W. S. Woodside, Baltimore District Manager of United Cork Companies.

### FROZEN FOODS STORAGE PLANT EXPANDS USE OF CORKBOARD

First installation of United Cork Companies' BB (Block-Baked) Corkboard at the plant of The Baltimore Cold Storage Company was made because Mr. A. Gordon Janney, President of the company, regarded corkboard as both the most economical and the most efficient type of low-temperature insulation.

This installation, made in 1947 in a room used for storage of frozen foods at a temperature of 5° below zero F., was designed by United's Engineering Service, in cooperation with Mr. Van Rensselaer H. Greene, Consulting Engineer for The Baltimore Cold Storage Company. Two layers of 3" BB Corkboard were used. The first was erected against brick in a bedding of Enamelite, and the second against the first—also in Enamelite.

The entire installation was made by United Cork Companies' own skilled erectors, working under the supervision of the Baltimore Division. An interesting feature of the installation is that all work was done while a temperature of 5° below zero F. was being maintained in the room.

#### *Results lead to Re-orders*

The Baltimore Cold Storage Co.'s experience with BB Corkboard was so successful that the company has since made new installations to convert three floors from cooler to freezer use.

A major factor in the effectiveness of United's BB Corkboard, in the opinion of Mr. Janney and thousands of other satisfied users, is the unified responsibility for the entire job. United Cork Companies select the grade of cork and bake the granules into BB Corkboard by a patented process. Engineers at United's branch offices throughout the country design the installation, and erection work is done by United's own skilled erectors under the supervision of the local Division Manager.

For more information about United Cork Companies' services and installations, drop a line to United Cork Companies, Dept. 1-8, Kearny, N. J.

Circle No. 46 on Reader Service Card

**JUNE, 1953 • COMMERCIAL REFRIGERATION**

# NEWS OF THE INDUSTRY

## SEATTLE REMA-RSES MEETING A SUCCESS

Enthusiastic support by the refrigeration and air conditioning industry of the Pacific Northwest made a marked success of the 11th Refrigeration and Air Conditioning Educational Exhibit and Conference held at Seattle on April 24 to 26.

Fifty-two companies furnished educational exhibits while interest in the technical talks ran high, with standing room only at most sessions.

Displays judged the most educational by service engineers and contractors in a contest sponsored by the Refrigeration Equipment Wholesalers Association were Detroit Controls Corp., Mueller Brass Co., and Penn Controls, Inc.,

While attendance at the Seattle meeting was largely from the Washington-Oregon area, a large contingent attended from Vancouver, B. C. Visitors also came from Montana, Nevada, Idaho, Wyoming and California.

Panel discussions at the start of each session were very popular. Appearing on the first day's program were John D. Bopp, chief chemist, Ansul Chemical Co., who gave a talk on driers; Minor Baker, Seattle First National Bank, who spoke on "The Business Outlook"; and Richard M. Stern who discussed job design as it applies to the service engineer.

At the second conference session, Edward Simons, consulting engineer, explained the operating characteristics of reflective insulation showing both the proper and improper methods of installation. Dan D. Wile, Refrigeration Engineering, Inc., gave an instructive talk on "Blower Coil Design and Selection

for Proper Humidity Control."

At the third session Frank Y. Carter, Detroit Controls Corp., explained tried and effective methods for the removal of moisture from refrigerating machines in the field. John H. Spence, Hussmann Refrigerator Co., gave an informative explanation of the use of the suction pressure recording gauge in diagnosing and analyzing service problems.

The Exhibit and Conference was the last in a series jointly sponsored by the Refrigeration Equipment Manufacturers Association and the Refrigeration Service Engineers Society.

## PUNXSUTAWNEY CO. REDUCES PRICES

The Punxsutawney Co., Punxsutawney, Pa., manufacturer of "Beverage-Air" bottle coolers, club bars, and draft systems, has announced the issuing of a new dealer price schedule which became effective April 1.

As the result of increased

production efficiency and volume, the new schedule reflects a general decrease in list prices, although a few models have increased slightly. The larger bottle coolers have been reduced as much as \$66 on the BC94-R and BC94-S while some of the 48" and 63" bottle coolers remain at no change to a \$22 increase on the list price.

All orders received between April 1 and April 18 were invoiced at the lower of the old or new price schedules.

## EX-WARD OFFICIALS PURCHASE VERING

V. R. Clark, former controller and R. Brent Cochran, former general sales manager of Ward Refrigerator & Mfg. Co., Los Angeles, have purchased the Vering Mfg. Co. and are now incorporated as Vering, Inc.

Vering has been in the custom built refrigerator and food service equipment field for 30 years, and the new owners plan to continue the business in the same fields.

## PRINTING MACHINE CO. BUYS KEROTEST

The Miller Printing Machinery Co. of Pittsburgh announced April 30 that it had completed arrangements for the purchase of Kerotest Mfg. Co., manufacturer of refrigeration valves and fittings.

An official statement from the Miller Co. said that operations would be continued at Kerotest along the same product lines as in the past. For the refrigeration industry, Kerotest has produced valves, fittings and various accessory items.

No drastic changes are considered as far as the present Kerotest organization is concerned, the Miller statement said, and former employees will be called back as soon as possible.

All Kerotest preferred and common stock has been acquired by the Miller Co., including that of Tube Turns, Inc., Louisville, Ky., which purchased the common stock last fall.

R. B. Tullis, president of Miller, stated that Kerotest

*Continued on page 70*

## KRAMER FIELD REPS DISCUSS SALES PLANS AT CONFERENCE



KRAMER SALES REPRESENTATIVES at the closing banquet of a recent 4-day sales conference held at the plant in Trenton, N. J. were: Seated, (first row) left to right: Allen Dean, Leon Traney, Leonard Millner, Robert Tankle, and Thomas Hart. Seated, (second row) left to right: S. Charles Segal, Nathan Kramer, Israel Kramer, Mrs. Israel Kramer, Otto Nussbaum, John Harkins, Al Keane, Art Nelson, and Joe Corbin. Standing, left to right: Leonard Englander, Irving Cohler, Art Reed, Robert Nelson, G. Chilson, Eddy Miller, Frank Obert, Hy Malkoff, Ray Graham, Thomas Manning, John Plumeri, W. McDaniels, Frank Kennedy, Harry Klingler, Jules Neishloss, and Leo Freitas.



## MANUFACTURERS EXHIBIT APPLICATIONS AND PROCEDURES AT SEATTLE SHOW



**TYPICAL OF DISPLAYS** at the 11th Educational Exhibit and Conference in Seattle recently were those of (left) Penn Controls Inc., showing the many applications of controls affecting suction pressure, hot gas and electric defrost, time pressure defrost, etc.; (center) Bush Mfg. Co., showing the

function of a re-evaporator in hot gas defrosting cycles; and (right) Mueller Brass Co., whose refrigeration cycle demonstration board used glass tubing to show refrigerant action. The board is equipped with a variety of valves, gauges, and other accessories to show their functions.

### INDUSTRY NOW FREE OF PRICE CEILINGS

All refrigeration and air conditioning equipment—including commercial and industrial equipment, air conditioners and dehumidifiers, and domestic refrigerators and home and farm freezers—is now free of price controls. This applies to manufacturing, wholesale and retail levels.

Any record relating to a commodity or service exempted from price control which was required prior to lifting of OPS regulations must be kept and made available for examination by OPS, or any other authorized agency of the U. S., for the time and in the manner stipulated in the regulation. However, in no case need records be preserved after April 30, 1955.

### NEW BUSH, HEAT-X CHICAGO BRANCH

The Bush Mfg. Co. and the Heat-X-Changer Co. have announced the opening of new warehouse and branch office facilities in Chicago.

Comprising 6,250 sq. ft. of floor space, the new warehouse is located at 1455 W. Congress St. It is situated in an easily accessible area, convenient to new through highways, and includes a large loading platform. The office and warehouse will be used to service Bush and Heat-X customers throughout the midwest.

### ACME REPORTS RISE IN 1953 SALES

Acme Industries, Inc. is already beginning to feel the consumer interest in air conditioners of the new surge of ditioning. Information released by K. A. Weatherwax, president, indicated that sales for the quarter ending March 31 were 52% higher than those of the same period in 1952. April sales have more than doubled sales figures for the same month a year ago.

### UNIVERSAL EXPANDS; NAMES 12 DEALERS

Universal Diffuser Corp. has acquired 10,000 sq. ft. of additional manufacturing facilities. The new address of the plant and executives offices is 1360 Garrison Ave., New York 59, N. Y.

Universal has appointed 12 sales agents to handle the line of Flexiflo air diffusers. The new agents and territories covered are: Airtite Engineering Co., Rhode Island; A. B. Banowsky, Houston; Barton Refrigerating Co., Indiana; J. L. Brown, Arkansas; Richard A. Farr, Columbus; Irvington Co., Buffalo; Duncan G. MacLean Co., Yakima, Wash.; Miller-Spann & Co., N. & S. Carolina; Pacific Air Control, Oregon; Henry S. Parks Co., Utah; Thermalair Engineering Co., Michigan; H. V. Witherspoon, Baltimore and Washington, D. C.

### LEWYT TO CONTRACT ROOM COOLER UNITS

Lewyt Corp., Brooklyn, manufacturer of the Lewyt vacuum cleaner, is planning to produce room air conditioners of various sizes on a contract basis for the 1954 selling season. Alex M. Lewyt, president, announced recently. He said that his company has no plans to manufacture and sell air conditioners under its own name in the foreseeable future, because it would present the company with too many distribution problems.

### PENN SCHEDULES MIDWEST MEETINGS

Penn Controls is extending its series of educational shows through several midwestern states, according to R. H. Luscombe, general sales manager. The new series began April 30 in Lincoln, Neb., and will end in Detroit on June 25.

The Penn show has been traveling the western states in recent weeks. The new series will cover the states of Nebraska, Iowa, Illinois, Minnesota, Wisconsin and Michigan.

As in the past, the shows will present visually the principles of application, installation and servicing of automatic controls. Meetings in each city are arranged by local Penn wholesalers.

The Heating Control Show

is scheduled to appear in Lincoln, Neb., April 30; Omaha, May 4; Sioux City, Iowa, May 7; Des Moines, May 11; Minneapolis, May 14; Duluth, May 18; LaCrosse, Wis., May 21; Waterloo, Iowa, May 25; Cedar Rapids, May 28; Davenport, June 1; Peoria, Ill., June 4; Chicago, June 8 and June 10; Milwaukee, June 15; Green Bay, Wis., June 18; Grand Rapids, Mich., June 22; and Detroit, June 24.

The Refrigeration Control Show is scheduled to appear in Lincoln, May 1; Omaha, May 5; Sioux City, May 8; Des Moines, May 12; Minneapolis, May 15; Duluth, May 19; LaCrosse, May 22; Waterloo, May 26; Cedar Rapids, May 29; Davenport, June 2; Peoria, June 5; Chicago, June 9 and June 11; Milwaukee, June 16; Green Bay, June 19; Grand Rapids, June 23; Detroit, June 25.

### PITT. CORNING CORP. OFFICES MOVED

The Pittsburgh Corning Corp. has moved its general offices from 307 Fourth Ave. to new quarters at One Gateway Center, Pittsburgh 22.

The firm, manufacturers of PC glass blocks and Foamglas insulation, will occupy the 13th floor in the new building. Located at this new address will be Pittsburgh Corning's executive, sales and accounting divisions.

## "LIQUID" TO QUIT FOUNTAIN FIELD

Liquid Carbonic Corp., Chicago, which has been making soda fountains for more than 50 years, is discontinuing production of this equipment in the U. S., but will continue making soda fountains in its Canadian plant.

W. A. Brown, president, said that the soda fountain part of Liquid Carbonic's diversified operations has been losing money. He said that henceforth the company will concentrate on such other products as dry ice, carbonic gas, oxygen, acetylene, and bottling machines.

Supplies of replacement and repair parts for soda fountain operators will be made available as long as necessary, Brown said.

## TENNEY EXECUTIVE VISITS FRANCE

Saul S. Schiffman, secretary and treasurer of Tenney Engineering, Inc., is visiting

Europe in April and May, particularly to inspect a new Tenney stratosphere test chamber now being installed for the French Air Ministry at Palaiseau, near Paris.

The new French test chambers—paid for by the French government with French funds—will be used in expanding France's experimental rocket program. Materials, parts, components, and assemblies will be tested.

The installation comprises two units—one a 36 cu. ft. model, the other a large "walk-in" chamber. Both have temperature ranges from -70C to +93C; humidity regulation between 20 and 95%; and altitude control to 80,000 ft. The chambers are equipped with automatic program controls to make it possible to cycle weather conditions automatically according to pre-set patterns. Design specifications, more demanding than most U.S. specs, require temperatures to rise or fall during cycling at the rate of 2C per minute, the chamber containing a 2 kw operating load.

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## DOUBLE YOUR SAVINGS in time and labor . . . with

the one-formula®  
**X-PANDO  
PIPE-JOINT  
COMPOUND**

**X-PANDO  
CAUXEAL**

Contractors, Installation and Service Men in the refrigerant field, industry, government; the armed forces—all agree that X-Pando Pipe-Joint Compound is far superior to litharge and glycerine for freon, ammonia, brine and all refrigerant liquids and gases.

An X-Pando application costs less, goes much further; is less brittle and is easy to take apart. It ends leaks. It corrects thread imperfections; withstands deflection, vibration, and extreme temperature changes.

X-Pando is the recommended exclusive compound STANDARD in the refrigeration field. It is the ONLY compound that expands as its sets. You need only this ONE FORMULA for all jobs.

that wonderful refrigerant Sealer that's applied like putty, but is better than putty. Always remains pliable — yet it seals indefinitely.

Causeal is the perfect seal for ducts, conduits, air-conditioning units and innumerable other uses. It's simple, fast, economical, needing no special preparation. It's watertight, fume-proof, vermin-proof and acid-resistant. It sticks to anything!

You can't waste Causeal. Simply put all excess Causeal back into the container for re-use at any time. Store it anywhere — it'll always remain "workable."

**IF IT'S WORTH INSTALLING—IT'S WORTH SEALING RIGHT—  
WITH X-PANDO PIPE-JOINT COMPOUND AND CAUXEAL.**

X-Pando Products are always sold on a Money-Back Guarantee! Available at your local Refrigeration Wholesaler or your Industrial Supply House. Nationally distributed by York Corporation through their authorized outlets.

### X-PANDO CORPORATION

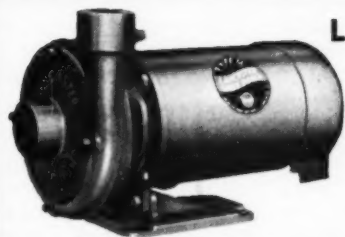
Manufacturers of Quality Industrial Products for over 25 Years  
43-15 — 36th STREET, LONG ISLAND CITY 1, NEW YORK

## Reliable Performance

Low cost centrifugal pumps with mechanical seals, balanced bronze impellers, ball bearings.

1/4 to 1 1/2 H.P. Motors.

## FOR AIR-CONDITIONING



**LANCASTER  
UNIT  
PUMPS  
TYPE M**

## FOR CIRCULATION JOBS

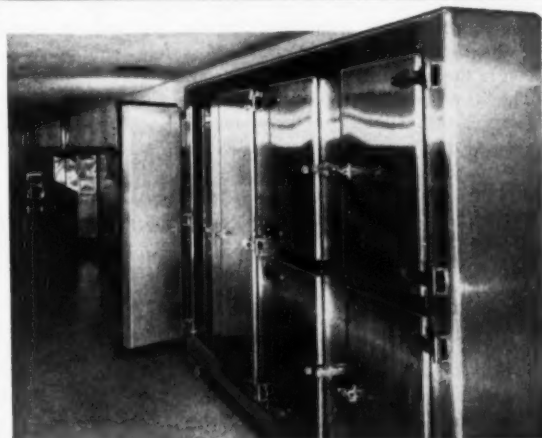


ALSO AVAILABLE  
**LANCASTER UNIT PUMPS**  
from 2-50 H.P. and heads to 300'  
Capacities to 1000 G.P.M.

Write for Catalog

**LANCASTER PUMP AND MANUFACTURING CO., Inc.**  
LANCASTER, PENNSYLVANIA

Circle No. 114 on Reader Service Card  
and AIR CONDITIONING • JUNE, 1953



## PASS THROUGH REFRIGERATORS?

Certainly . . . FEDERAL modern refrigeration includes: FOOD SERVICE REFRIGERATORS, STORAGE FREEZERS . . . for Hotels, Institutions, Restaurants, Hospitals, Commissaries, Bars, Packaged Goods Stores, etc.

See our display at the  
NARGUS convention  
Booths B-96, B-98,  
Chicago, June 14.

Write for  
complete franchise  
information.

**Federal  
Refrigerator Mfg. Co.**  
Waukesha, Wis. Dept. E



Circle No. 48 on Reader Service Card

## NEW AIRTEMP HOME UNIT AIR-COOLED

The air conditioning industry's "first residential air-cooled air conditioner" is now in production at the Chrysler Airtemp plant in Dayton, C. E. Buchholzer, Airtemp president, revealed recently.

"The Chrysler Airtemp air-cooled residential air conditioner is the solution to problems of homeowners who would like to install air conditioning but may not do so because of local restrictions stemming from insufficient water supplies, high water costs or inadequate drainage facilities," Buchholzer declared.

Two models of 2 and 3 hp size air conditioners are being shipped from the Airtemp plant, Buchholzer said. They have been designed for installation in attics, utility rooms, in crawl spaces under main floors and with basement forced warm-air furnaces.

As described by the Airtemp president, the air-cooled model built for basement installation can be located outside next to the house. A refrigerant is piped from the condensing unit to a cooling coil in the main furnace duct. The home air is circulated through the coil by the furnace blower, cooling the air and warming the refrigerant. The warmed refrigerant is returned outside to the condensing unit and cooled by outside air.

## ARMSTRONG IS NEW WILLIAMS CO. HEAD

After 46 years as executive head of Williams & Co., Harold E. Williams has retired from active duties as president and has become chairman of the board. Vice president Hugh C. Armstrong has been elected president and C. C. Kleinschmidt has been named vice president and assistant general manager.

Armstrong joined Williams & Co. shortly after his graduation from the University of Michigan in 1926, serving as salesman and later as head of the nickel alloys department. In 1942 he was elect-

ed vice president and general manager.

Kleinschmidt has been with the company 19 years during which time he has served as manager of the aluminum and brass and copper department and later as assistant general manager.

Under Williams' direction the business of Williams & Co. has grown from a very meager beginning with but two employees in 1907, to a leading position in its field. The company now owns and operates large modern warehouses in Pittsburgh, Cleveland, Cincinnati, Columbus, Toledo and Louisville; and employs more than 125 salesmen and technical experts. General offices and main warehouse are located at 901 Pennsylvania Ave., Pittsburgh.

Among the metals carried by Williams are: aluminum, brass, bronze, copper, monel, nickel, inconel, stainless steel, steel tubing, alloys and clads. Among the metal products Williams distributes are: refrigeration and air-conditioning supplies, welding machines and materials, fittings, valves, accessories and safety equipment and supplies.

Net sales of the company for 1952 exceeded \$38,421,000; an increase of \$2,000,000 over 1951 sales.

## NEW PLANT FOR PENN IN CANADA

Penn Controls, Ltd., Canadian subsidiary of Penn Controls, Inc., has moved to a newly constructed modern factory and office building at 929 Warden Ave., Scarborough, Ont.

Built on the eastern outskirts of Toronto, the plant will provide space for the expanding Canadian operation. This move to larger quarters is the third made since 1946.

Designed and constructed under the supervision of Arthur H. Hills, vice president and general manager of the Canadian branch, the new building is fully equipped for fabrication and assembly of the standard product line.

## KEROTEST . . .

*Continued on page 67*

will be operated as a separate company with a few executives of Miller acting in an advisory capacity.

New officers of Kerotest will be: R. B. Tullis, president; A. A. Saul, vice president; W. G. Young, vice president; W. G. Swaney, vice president; D. E. Edwards, treasurer and controller, and Hazel Gratz, assistant treasurer.

Swaney was one of the founders of Kerotest and for many years was general manager. New directors, in addition to Tullis, Saul, Young and Edwards, will include H. B. Matthews and E. L. Grimes.

Young, now plant manager at Miller's North Side factory, will move his headquarters to Kerotest.

The Miller Co. has been

## INDUSTRY FIRMS IN MODERNIZING SHOW

Air Conditioning and refrigeration will be a featured theme at the 4th National Store Modernization, Building and Maintenance Show to be held June 9-12 at Madison Square Garden, New York.

Five of the principal exhibitors will be manufacturers of air conditioning and refrigeration equipment, and, in addition, a discussion of what air conditioning can do for the retailer, will be given at the Store Modernization Clinic to be held on the first day of the show, Tuesday, June 9.

Air conditioning equipment will be displayed by Carrier, Chrysler Airtemp, Worthington and Norman Products, and commercial refrigeration equipment will be shown by Tyler Fixture Corp. Tyler will exhibit for the first time a completely wide open, self-service and self-contained ice-cream cabinet which can be installed without running refrigeration lines and drains to it.

The talk on air conditioning will be delivered by J. F. Knoff, vice president of Chrysler Airtemp.

in the graphic arts field since 1903. It has manufactured automatic cylinder letterpresses since 1926 and has gained a predominant position in that field. In March of 1952, company purchased the Electric Boat Co.'s Printing Machinery Div. at Groton, Conn.

Although there was capital impairment and inadequate financing the Kerotest Co. was not in fact insolvent in the bankruptcy sense, the Miller statement said. However, they had filed a petition in Federal Court asking to reorganize. The trustee and other interested parties approached the Miller Co. because they had gone through a similar procedure in 1936 and its management had regained its strong financial position and eminency in the field of printing machinery and equipment.

Miller sales experience has been worldwide and with this they bring a unique employee relation record and skilled precision machining and assembly knowledge to the Kerotest Co.

Kerotest was incorporated in 1909 as the Pittsburgh Reinforced Brazing and Machine Co. and in 1914 began the manufacture of high pressure valves. In 1927 the corporate title was changed to Kerotest Mfg. Co. Kerotest has been making valves and fittings for refrigeration and air conditioning for over 20 years.

## EMERSON PRESIDENT IS HEART VICTIM

While discussing business affairs with associates, Oscar C. Schmitt, president and director of Emerson Electric Mfg. Co., suffered a heart attack and died shortly afterward.

With the firm since 1910 when he joined as an office worker, he was elected vice president in 1936, and a director in 1938. In 1940 he became executive vice president and remained in that position until 1945 when he succeeded Stuart Symington as president.



# COMMERCIAL *Refrigerator* SALES NEWS

## "Soft Served" Ice Cream Fills Gap In Industry Sales, Swenson Says

**"SOFT-SERVED"** products are not a threat to the hard ice cream manufacturers; they are actually filling the gap created by lost bulk hard ice cream sales and should be made an ally of the ice cream manufacturer. This was the theme of an address given by Harvey F. Swenson before the Ohio State University Dairy Technology Conference.

Swenson, president of Sweden Freezer Mfg. Co., first outlined the changing conditions of the controversy within the dairy industry over the use of the term "soft ice cream." He pointed out that this is a truly descriptive term and has been widely adopted by the consumer.

It's use within the industry first created a bitter storm because of butterfat conflicts—a situation that is unacceptable to most hard ice cream manufacturers—but it is taking hold, nevertheless.

On the other hand, the public knows the difference between soft and the hard frozen product and they know what they are buying. The happy solution, Swenson believes, would be for the industry to adopt the term "soft-served" when referring to the soft product, as this term aptly describes all the different soft products on the market.

Swenson then discussed the trends of the soft product during the past year toward a firm, colder, and heavier product; the greater use of flavors and fruit and nut meats; and the increase in business the retailer is doing in soft served products.

He cited a few figures to show the growth in consumption. Comparing an estimated soft-served production to that of hard ice cream, Swenson pointed out that it can be safely said that the production of soft-served

products in 1951 was equal to 165,000,000 gallons of all hard ice cream reported produced.

Swenson next discussed the future role of soft-served products in the dairy industry. The steady decline in bulk ice cream consumption, he said, has been due to the high price of bulk ice cream to the consumer, the difficult and inefficient handling by the retailer, and the high wholesale cost resulting in an insufficient margin of profit for the retailer.

He pointed out that the gap caused by this loss of business is being filled by the soft-served product.

Rather than fight to regain this bulk business, Swenson believes that the manufacturer should accept soft-served products as an ally and work with them against the other types of products that are competing for the public food dollar.

### SHERER GRANTED PATENT ON COILING SYSTEM

United States Patent No. 2,630,684 has been granted to M. H. Strang, assignor to Sherer-Gillett Co. covering a coiling system for refrigerated open display cases, both single and multiple shelf.

Eight claims are granted by the patent covering various elements of the coiling system, including: a bypass duct for the recirculation of part of the air flow directly from the coil to the low pressure side of the fan; supply ducts for each display shelf; supply and return ports at rear and front of the case; means for controlling the velocity of air over the display shelves and for preventing the recirculated cold air from entering the display area of the case.

Since its initial development some three years ago, various ele-

### EQUIPMENT LOCATION SPEEDS QUICK-SALE OPERATIONS



**CONCESSION STANDS** like this one in the Onondaga County War Memorial Auditorium in Syracuse, N.Y., constitute an excellent market for the merchandiser of commercial refrigeration equipment designed for food and beverage service. Key to the success of such quick-sale operations is fast and efficient service, so each piece has to be located in the most advantageous spot to save space and speed service. This particular installation included 17 bottled beverage coolers, 11 compressors, a 44-cu.ft. reach-in, 10 8-cu.ft. household-type refrigerators, and a number of ice cream cabinets.



ments of the coiling system have been incorporated in Sherer open cases for refrigerated display. Company officials claim that in addition to minimizing the loss of circulating air from the display area, the improved coiling system has resulted in increased efficiency which has reflected itself primarily in reduced running time for the condensing unit and lower operating costs because of lesser electrical consumption.

The company has no present plans for licensing the patent.

# 1ST QUARTER SALES UP 9%, NCRSA MEMBERS REPORT

Sales reported by members of National Commercial Refrigerator Sales Association for the first quarter of 1953 show an increase of 8.92% over the same period of 1952, with 74% of the members reporting sales up over last year.

Accounts receivable as of March 31, 1953 were reported by members as 12.42% up over those reported on the same date for the previous year. On the other hand, inventory reported by members as

of the end of March was down 6.50% from the figure for the first quarter of 1952.

## MAGAZINE URGES MORE REFRIGERATED DISPLAY

In a lead editorial of a recent issue, the magazine *Meat, Fresh and Frozen Food Merchandising* points out that while 75.5% of the average retail food store's profit comes from the sale of its refrigerated perishables — meat, produce, dairy, and frozen foods — at present only 36% of the store area is devoted to these perishables.

Stressing the fact that floor space is too expensive — whether owned or rented, to allow this discrepancy, the magazine analyzes the relation between food store total sales and shopping areas as follows:

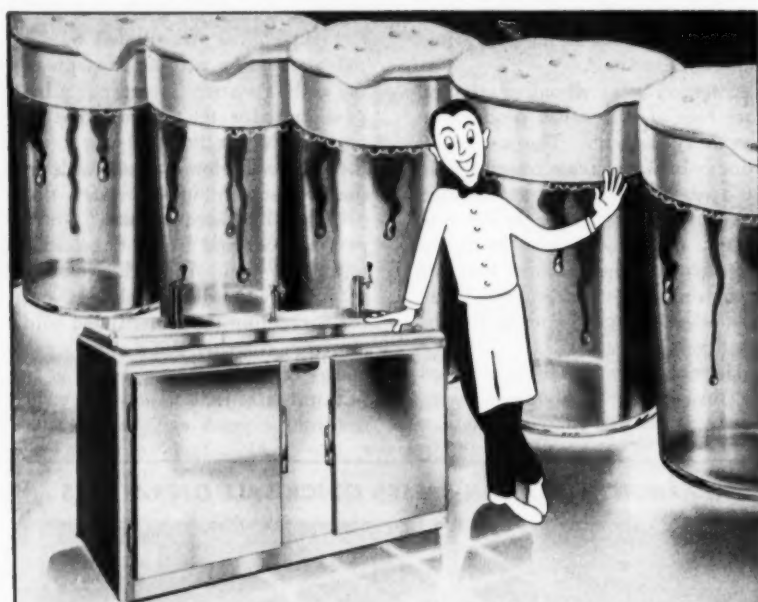
Dept.	% of Net Profit	% of Retail Shopping Area
Groceries	24.5	55.0
Meat	24.3	13.0
Produce	23.2	11.0
Dairy	21.0	7.0
Frozen Foods	7.0	5.0
(Administrative)	0.0	9.0
TOTAL	100.0	100.0

Recent research by *Meat Merchandising* has shown that the bulk of the pure grocery volume can be had from only two rows of an item on a shelf. It stimulates sales only a little, the magazine has found, to use three or four rows instead of two. And if the merchant goes "all out," using six rows, which take up three times as much space on the shelves as two rows, the volume, instead of tripling, is boosted by only one-third, the magazine reports.

The article is summarized by a plea to the food merchants to enlarge their perishable food departments to something more nearly approaching their fair share of the retail floor space — earned by virtue of the net profit they account for in the final reckoning.

## NEW EBCO BRANCHES

The Elco Mfg. Co. has opened new branch offices in New York and Chicago. These are the first company offices to be established outside the home office in Columbus, Ohio.



## More beer sold from every keg with *Beverage-Air* DRAFT SYSTEMS

It's a fact! Thousands of satisfied users over the country are claiming 20 to 30 more glasses of beer from each keg with Beverage-Air Draft Systems . . . more and more breweries are selecting Beverage-Air equipment for use in visitor's rooms and at trade conventions.

Why? Because Beverage-Air Draft Systems are designed to eliminate waste through . . .

- Patented "air-conditioned" faucets that keep the beer cooled to the correct serving temperature . . . never any wild, warm or stale beer.
- Unrestricted, one-size flow lines and tap rods assure a smooth even flow of beer . . . less than 1 oz. of beer contained in the lines from the faucet tip to the keg, the perfect storage place.

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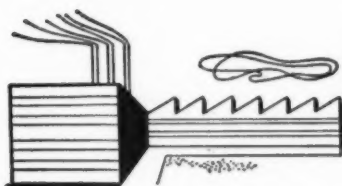
## HEATING

# AIR CONDITIONING

## *Section*



**COMMERCIAL**



**INDUSTRIAL**



**INSTITUTIONAL**



**RESIDENTIAL**

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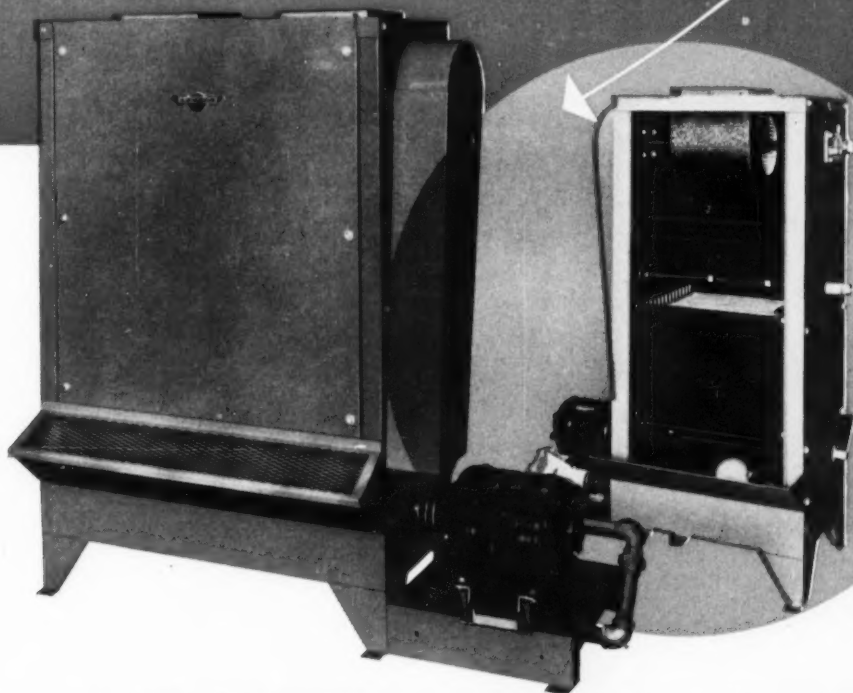
**THIS SPECIAL SECTION** will be devoted to all phases of Air Conditioning — Residential, Commercial and Industrial, including both self-contained packaged units and central-station type equipment for seasonal or year-round application.

It will include information on the merchandising, selling, installation and maintenance of Air Conditioning equipment, reports on the New Products which are being introduced in this field, and announcements of Literature available from manufacturers.

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Affiliated Gas Equip., Inc.

**C. W. NESSELL**  
Minneapolis-Honeywell  
Regulator Co.



**W. G. SENFT**

American Radiator &  
Standard Sanitary Corp.

**W. A. GRANT**  
Carrier Corp.



**G. R. WACHTER**

York Corp.

**J. R. HERTZLER**  
York Corp.



**R. W. ROOSE**

University of Illinois



Some of the speakers participating in the Technical Conference on Year-Round Residential Air Conditioning sponsored by Lehigh University are pictured below. A digest of their opinions and comments is contained in this article.

## THE SUBJECT

**O**VER 200 industry members from all parts of the United States gathered at Lehigh University, Bethlehem, Pa., April 24 and 25 to take part in the Lehigh Technical Conference on year-around residential air conditioning. Those attending this meeting comprised a cross section of the air conditioning industry, including manufacturers of air conditioning equipment, research groups, builders, engineers, air conditioning contractors, and representatives of manufacturing firms contemplating entrance into the growing air conditioning industry.

The Conference was keynoted by Dr. M. D. Whitaker, president of Lehigh University, who pointed out that at the school's last conference on air conditioning, held in 1939, the word residential was not even mentioned, thus indicating the newness of the fast-growing residential air conditioning industry. Because of this newness, he pointed out, there are many problems, both from an engineering and a sales point of view, that must be further explored before this business can hope to realize its full potential.

### Texas Builder Cites Lessons Learned

Laying the cards on the table from the builder's point of view, N. A. Cole, president of the Fabricon Co., Austin, Tex., pointed out that builders are learning a great deal about air conditioning as they endeavor to incorporate it in the new homes that they are constructing. His firm, he explained, had learned an important lesson in selling air conditioning right from the very first. The company had placed an air conditioned home on display for the public, and had advertised it heavily on the basis that the home was comfortable at all times.

This home was visited by the public in droves, who kept the doors wide open and filled the home with curiosity seekers and buyers from sunup to sundown. But with the heavy heat load of all the persons in the

# Progress and Problems of Residential Air Conditioning

structure and the door constantly opened, the air conditioning was absolutely useless and did nothing but promote ill will for air conditioning. Cole expressed the belief that this type of selling will set the air conditioning industry back a number of years.

Naturally, he declared, the builder's main problem on air conditioning at this point is to find out if it is as saleable a home feature as many seem to think. At present, he pointed out, the builder is using air conditioning strictly as a sales gimmick. If the builder finds out that air conditioning is not as saleable as first believed, he stated, the development of year-round air conditioning may be delayed for another five years.

Cole said that the builder has to ask himself these questions: Is air conditioning workable? Is air conditioning beneficial? Is air conditioning cheap enough? So far, he reported, the answers to these questions have not been too satisfactory. He made it clear, however, that he lives in an air conditioned home himself, and that he is convinced that once a person lives in an air conditioned house he won't live in anything else.

Reporting to the Conference on trends in the building industry with reference to year-round air conditioning, Cole stressed that primarily the trend is heavily in favor of forced warm air heating, mostly gas-fired in his part of the country.

Builders there, he continued, are using overhead supplies for both heating and cooling, and are experimenting with perimeter heating to see if it will work for both cooling and heating. Also they are using high wall or ceiling registers. To date, they have had trouble with ceiling blenders giving cold floors in heating.

Another trend is the use and employment of central returns, which experience is proving will work. They are also following the trend to air-cooled condensers which, from early results, seem to be working satisfactorily. And the builder expressed the hope that this

move will be expanded inasmuch as cooling towers are not at all beautiful to the public eye.

Cole pointed out that the builder is skeptical of engineering calculations, as these calculations are based on the assumption that all of the contingent factors such as the proper thicknesses of insulation and shading of windows will be properly handled. He said that though even a builder might endeavor to follow all of the specifications, the sheet metal man or some other sub-contractor working in the home might, for instance, have occasion to remove the insulation from the walls and then neglect to replace it. Consequently the builder, in many cases, is going to order a 3-ton unit instead of a 2-ton to make up for all the things that aren't exactly as they should be in the home to comply with the recommended engineers calculations.

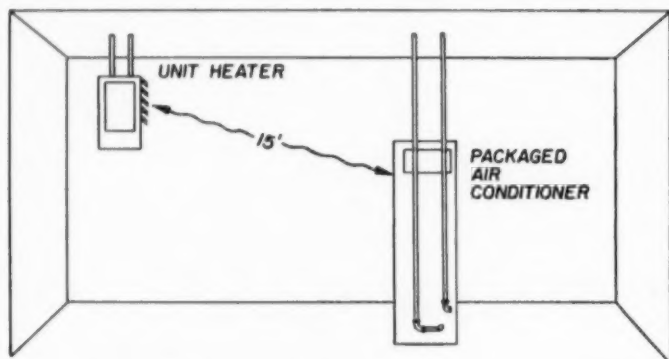
## Financing Problems Plague Builders

A discouraging point in the meeting was Cole's report that information compiled by the Federal Housing Administration in Houston, Tex., reveals that 50% of the home owners having year-round air conditioning are not satisfied with the installation.

One more air conditioning problem facing the builder, Cole declared, is financing on the part of the prospective purchaser. The rule of thumb method that being used at the present time is that air conditioning should not be installed if the operation cost is going to exceed \$10 per month on a 12-month average.

Many factors are being used by mortgage people to determine what type of buyer can afford air conditioning. Cole explained some of these methods, pointing out that mortgage concerns in many cases figure that payments should not exceed one-fifth of a man's net income. In determining this figure they will also deduct from the amount earned by the prospective buyer any monies he might owe on other purchases.

Cole also pointed out that the builder must of neces-



TO MAINTAIN proper humidity in a potato chip factory, a unit heater and a packaged air conditioner blast hot and cold air at each other in a . . .

## Battle of the Btu's

**H**UMIDITY is just another word for headache in the potato chip business. This is especially true in a locality such as Austin, Tex., where during the summer months temperatures may soar to 105 F, and humidity to 80 or 90%.

Improper humidity conditions cause all manner of trouble in potato chip processing. If humidity in the bagging room is too high, the chips may develop a stale taste, although actually factory fresh. Or, if the chips are bagged too hot to overcome the humidity problem, they may develop a rancid taste and odor.

Scientific research and development have been employed to solve virtually every problem in potato chip processing but the persistent one of humidity control in the bagging room. "For years," reports Jim Peal, owner of Sani Products in Austin, "we chippers had a seasonable business. Not that our product is a seasonable one, but during the seasons when humidity was high we were foolish to bag our product."

The obvious answer would seem to be simply the installation of a dehumidifier in the bagging room. But Peal just shakes his head in the negative. "A dehumidifier would take up half my working space in the bagging room," he points out. "Then too, while the bagging room couldn't be too dry for the chips, we must have enough humidity in the air so that the girls working there can be comfortable."

Finally, with comfort for his employees in mind, Peal had Capitol Air Conditioning Co. install a 5-ton Airtemp packaged conditioning unit in the bagging room. "That worked out fine," Peal explains, "when it was real hot, and the unit was operating at full capacity." Not only did the conditioner provide comfortable working temperatures but it also removed a good deal of moisture from the air in the process. "The trouble came when we shut the unit down because the room was getting too cold for comfort. Then the compressor began to cycle and, subsequently, the unit dumped all the moisture back into the bagging room."

That was when Peal sent out an S.O.S. to Jim Gant of Capitol Air Conditioning. At first Gant was stumped by this problem, but not for long. After a little study he suggested suspending a 100,000-Btu unit heater from the ceiling at one end of the room, aiming it

*Continued on page 110*

sity compromise between what features the air conditioning industry would like to see incorporated into home design to make houses more suited to year-round conditioning and what features the builder can install economically and merchandise successfully.

The industry is to be congratulated, said Cole, on reducing the size of air conditioning equipment in the last two years, and he made it clear that any further reduction in the size of the equipment would be greatly welcomed by the builder.

### Load Calculations Stressed

Bear in mind, Cole summarized that air conditioning to be widely accepted by the builder must first of all be saleable. It must be simple to install. Its installation must not interfere with the overall building operation. And it must be cheap. On these terms, he declared, the public is ready for air conditioning, and so is the builder.

Load calculations for residential air conditioning was another prime topic of discussion at the Conference. F. W. Deady of Bryant Heater Div., Affiliated Gas Equipment, Inc., discussed this subject at considerable length. His talk was supplemented by a comparison of actual and calculated loads for residences presented by Prof. R. W. Roose of the University of Illinois.

### Vapor Problems Discussed

The second day's session at the Conference was opened by C. W. Nessell of Minneapolis-Honeywell Regulator Co., who spoke on vapor problems in year-round air conditioning.

Nessell made it clear that air conditioning is going to create many vapor problems which will have to be solved by the industry. He said that in one case 50% relative humidity was allowed in a home and that it caused the plaster to fall from the ceiling.

How to determine from what source moisture comes is often a problem, he declared. He cited one case in which extensive research was undertaken, to locate the cause of the moisture problem, and it was discovered that a half blocked flue on a gas heating system had caused

*Continued on page 110*

## A 5-YEAR WARRANTY

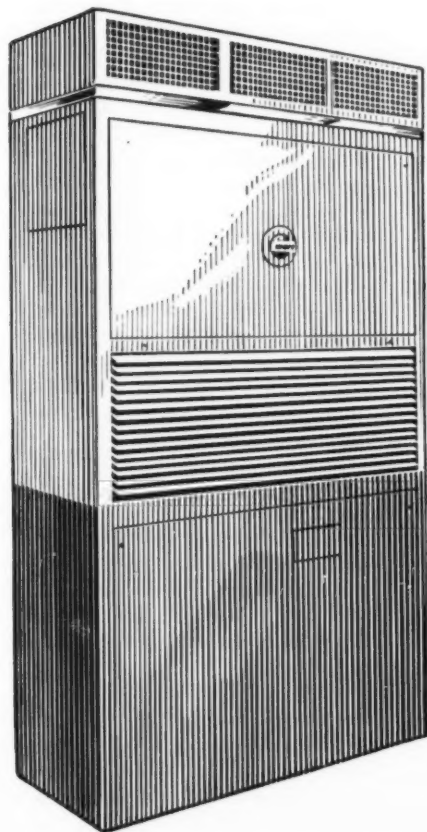
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**I**N a move to meet Canada's sharply rising demand for industrial chemicals and pharmaceuticals, North American Cyanamid Limited—Canadian subsidiary of American Cyanamid Company—recently consolidated its several office and warehouse locations in Montreal into a newly constructed office, warehouse and processing building. Because many of the products processed or stored in the new building require steady and precise atmospheric conditions, a complex refrigeration and air conditioning system had to be installed.

The new building has made possible an increase in the scope of North American Cyanamid's activities in Canada to include production of pharmaceuticals and refining of the antibiotic aureomycin, and has greatly expanded distribution facilities of a wide range of the firm's products.

## 20 Systems, 220 Tons

Completely air conditioned or ventilated to maintain the desired rate of temperature and humidity in its various office, warehouse and processing sections, the new steel frame structure has a total floor area of approximately 100,000 sq.ft.

Altogether there are 20 individual air conditioning or ventilating systems, making a total of 220 tons of refrigeration at 18 F suction

and 325 hp motor load. In addition to this load, there are two chill rooms and two walk-in refrigerators, adding another 15 tons of refrigeration.

The main refrigeration plant consists of three Carrier compressors—two with 125 hp. motors and one with a 75 hp. motor. These operate parallel to one another, discharging into two condensers with the suction connected to two Acme Dryex coolers. Ethylene glycol brine is circulated at the rate of 500 gallons per minute, cooled from 42 to 30 F.

## Penthouse Installation

Cooling water for the condensers is obtained from a Marley cooling tower with a capacity of 750 gallons per minute from 95 to 85 F at an entering wet bulb temperature of 75 F. The air conditioning equipment is installed in penthouses on the roof at two load centers, while the refrigeration machinery is installed on the ground floor below one of the penthouses.

Containing the bulk of the "industrial air conditioning" in the building is the pharmaceutical processing area. Included in this area are: Raw material receiving and storage space; rooms for aureomycin finishing and production of capsules, tablets, parenterals, liquids and ointments; packaging

department; a control laboratory and shipping facilities.

In capsule manufacturing the gelatin can readily absorb moisture from or lose moisture to the surrounding air, and therefore certain atmospheric conditions must be maintained. Because powders will absorb moisture from the air, causing granules to stick together, air conditioning is also required in the manufacture of tablets. The ideal conditions for this process are 35% relative humidity 72 F.

## 2 Chill Rooms, 2 Walk-Ins

Raw materials for the aureomycin finishing process are stored in a 20 foot by 20 foot by 10 foot high chill room at 4 C. Chemicals that are affected by heat are kept in a second chill room 50 feet by 40 feet by 15 feet maintained at 60 F. Both chill rooms have individual compressors and are on a direct expansion system with unit coolers. There are also two 8 foot by 10 foot walk-in refrigerators for storing pharmaceuticals and biologicals which are affected by heat. These refrigerators also have individual compressors.

Sterile rooms in the new North American Cyanamid Ltd. building are kept at a constant temperature. They have their own filters, booster coils, and controls and are on a branch from the central system. Air

# Separate Systems

. . . for air conditioning and ventilation were required in the new Canadian plant of American Cynamid Co. to process and store the wide variety of pharmaceuticals and antibiotics produced

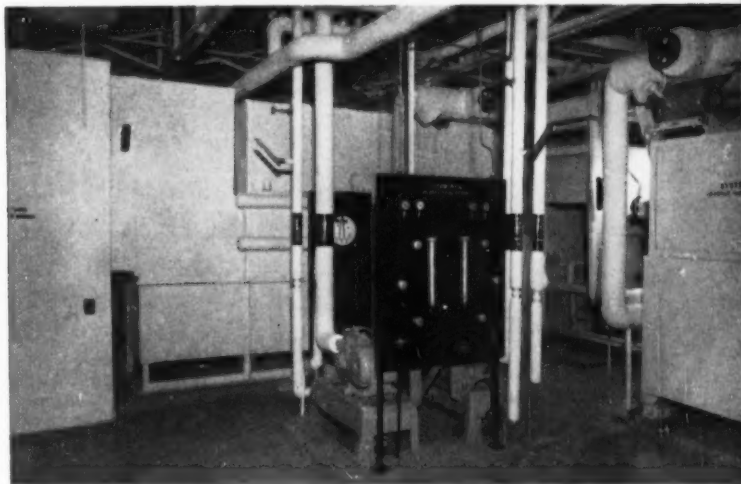
is exhausted through the doors and the vent. Conditions required are 75 F dry bulb, 50-60 relative humidity in summer and 30% relative humidity in winter. In the liquid parenteral and control laboratories these same conditions must be maintained.

Because paper and paperboard tend to absorb moisture from the air, packaging and labeling machines function much better in an air conditioned room. For this reason, North American Cyanamid has also equipped its packaging department with air conditioning. The conditions required are the same as those for the sterile rooms and liquid parenteral and control laboratories.

## Ceiling Diffusers Used

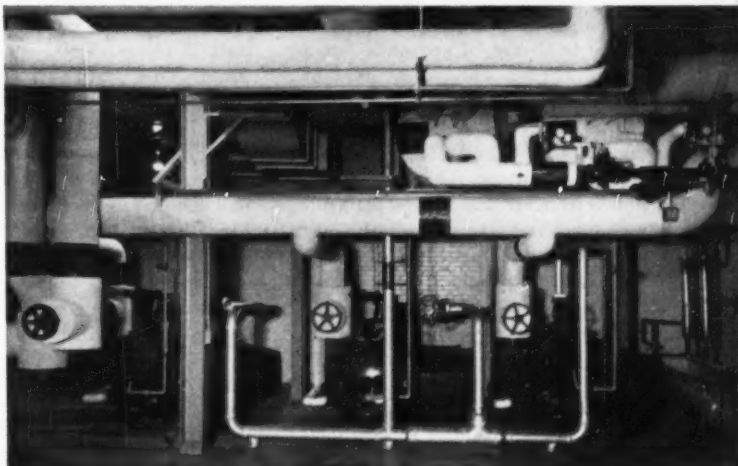
Air for the entire system is generally distributed from ceiling diffusers. Return ducts are on the floor. The building's manufacturing area is windowless, except for the aureomycin finishing section. Lighting in all the laboratories is glass troffer type while the inside walls are glazed tile and floors are colored concrete. Walls are constructed of 8 in. brick, 4 in. block, 1 in. Fiberglas insulation and the glazed tile which is 4 in. thick. The roof consists of 4 in. Aerocrete, 2 in. foam-glass, built up roofing felts, tar and

*Continued on page 135*



**"PROCESS PENTHOUSE"** houses the Kathabar humidity control system, chill room compressors, and the fan coil unit for the tablet and capsule room. ▲

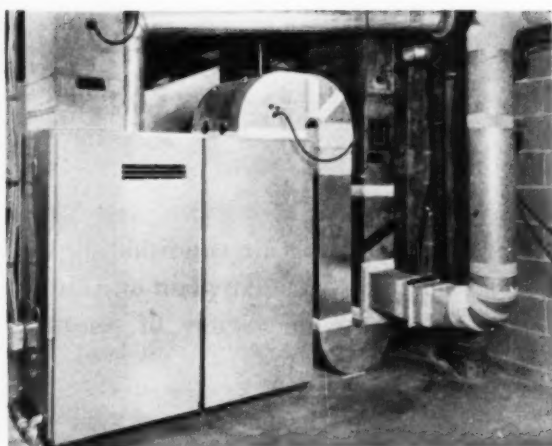
**MAIN COMPRESSORS** for the glycol systems are located in this machinery room. Equipment includes two compressors with 125-hp motors and one with a 75-hp motor. ▼



## What Price Cooling? (conclusion)



**INSTRUMENTS AND EQUIPMENT** shown here are helping to provide an answer to that question through tests being conducted by the National Warm Air Heating and



**Air Conditioning Association in its Research Residence No. 2 at the University of Illinois.** The first part of this report was published on these pages last month.

# Operating Costs Checked In Home Cooling Tests

**T**HE total cost of operation is an important item in the economics of a sale of a cooling system for domestic use, and records consequently were made on this important phase of the investigation.

The total cost of operating for a 30-day period with many days of extremely warm weather was \$32.58. Of this amount \$15.86 was the power cost and \$16.52 was the cost of the water. This was at the local electrical rate of 2.3c per kilowatt hour and a water rate of 37.1c per hundred cubic feet of water.

These costs should be rather carefully analyzed before they are applied to similar systems in other municipalities. Fundamentally, of course, the cost of electricity and water will depend upon the local rates which are subject to considerable variation.

The 2-hp compressor motor consumed between 1.8 and 1.9 kilowatts and the  $\frac{1}{2}$ -hp blower motor about 0.2 kilowatts making a total of approximately 2 kilowatts. During the thirty day period covered by the report the compressor operated approximately 300 hours with a total consumption of electrical energy of 544 kilowatt hours. The blower operated continuously for 24 hours a day regardless of compressor operation and consumed an additional 145 kilowatt hours making a total for that 30-day period of 689 kilowatt hours.

The total number of hours that the equipment will be operating per day will depend upon the total number of degree hours per day during which the outdoor temperature is above the desired indoor temperature — in this case, above 75F. One

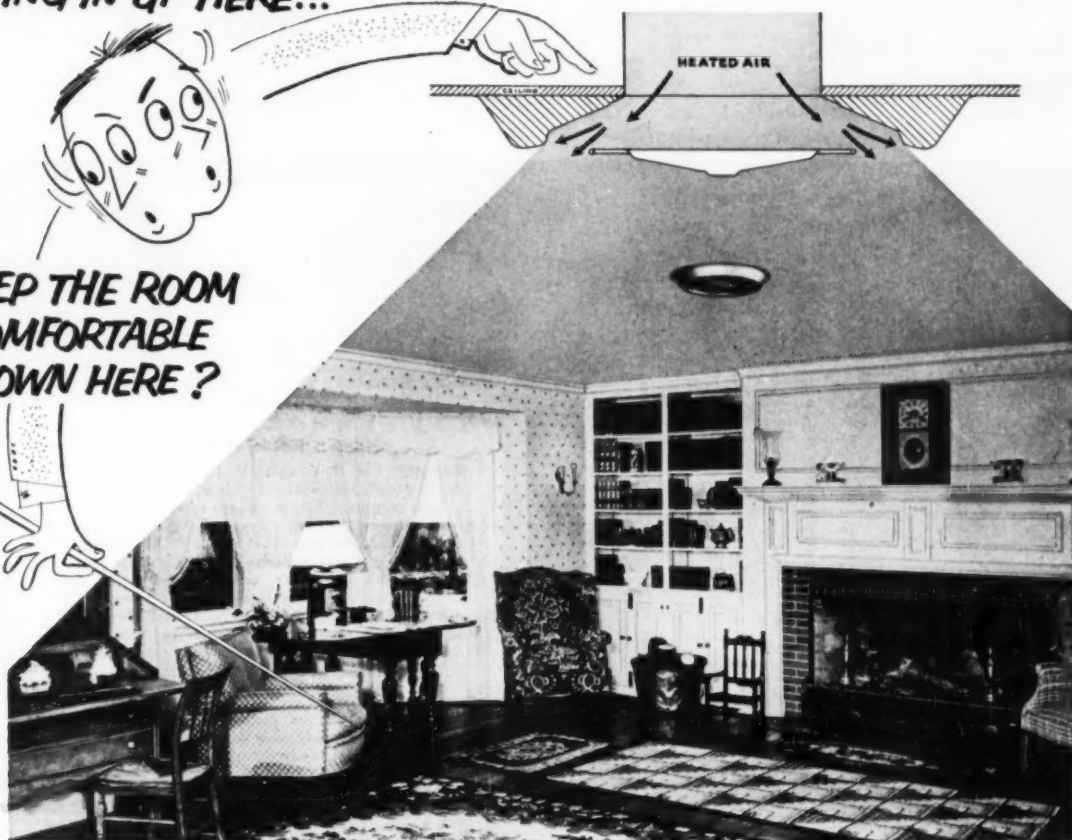
day during the test period when the outdoor temperature was at the design temperature, the total time of compressor operation was 16.2 hours. This was the maximum operating time experienced during any one day of the entire cooling season. The total amount of electrical energy consumed for 16.2 hours of compressor and 24 hours of blower operation was 34.3 kilowatt hours. The energy used during an average day's operation during this same period was 22.5 kilowatt hours.

Even more consideration must be given to the cost of the cooling water, which in this instance was wasted to the sewer. The amount of water flowing through the condenser varied from 135 to 140 gallons per each hour the compressor was in operation. At the beginning of the

*Continued on page 127*

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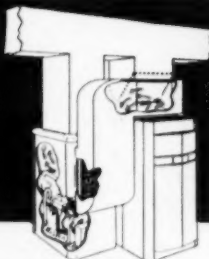
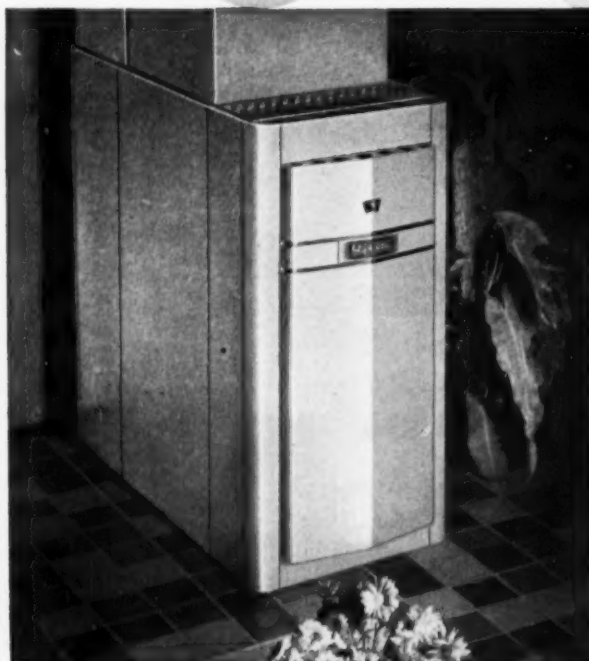


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**WINTER:** Cool air is pulled to furnace through the same return-air ducts, passed through same filters, circulated by same blower. Air is warmed by furnace and directed into same supply ducts.

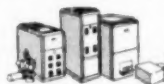
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**JUNE, 1953 • COMMERCIAL REFRIGERATION**

# THE HEATING OF AIR CONDITIONING SIDE

By Wm. Henry Knowlton

## Residential Air Conditioning -

# What Does the Public Want?

THE first of the articles in this series on Residential Air Conditioning discussed the impressions of owners of this type of equipment gathered during a survey made some ten years ago. At this time it was found that results, and operating costs, were for the most part satisfactory.

The second article attempted to answer the question — is the public ready to buy? It came to the conclusion that the answer is yes, providing the industry can help the builder cut the initial costs of his homes, and help the owner cut operating costs by teaching him what to expect from his equipment.

This article will attempt to determine, from the limited amount of information presently available, what the public wants and expects from a residential air conditioning system.

Perhaps our closest approach to the problem will be found in the results of a survey made this year by the Indoor Climate Research Bureau of Detroit. While results of various "surveys" are often inconclusive, this survey was made in two parts, and the answers received from the second mailing followed the pattern of the first, right to the letter. This would indicate that the survey was on the right track.

Statistics always make dull reading, but some of those uncovered by the survey mentioned are worthy of review at this time. In answer to the question "Do you think residential air conditioning is a good

investment?", 81% said yes, 8% said no, and 11% were undecided.

The same owners were asked what they liked best about residential air conditioning, and the replies were as follows: cooling, 28%; health, 21%; personal efficiency, 19%; general, 18%; not specified, 16%.

The answers to this question would indicate that the residential air conditioning salesman who attempts to sell his product on the basis of cooling alone is on the wrong track. People are equally concerned about the health of themselves and their children, and their personal efficiency.

### Sell Health, Too

The latter is particularly true of doctors, lawyers, engineers, and others whose yearly income is directly dependent upon their personal output. Men of this character know they must save themselves as much as possible to meet the exacting demands of their profession, and thus are excellent prospects for air conditioning in the home.

Questioned about why they bought air conditioning, most people said for comfort, rather than for business reasons. Any company might buy office air conditioning for reasons of prestige, but this would not follow into the home. The survey, however, asked no questions about pride of possession, which is one of the most powerful motives affecting residential buyers.

Many people want to be first with the best and others will fall in line, attempting to "keep up with the Joneses".

The homes air conditioned ran from 5 to 9 or more rooms, with an almost equal number of buyers in each classification. This would indicate that the sale of residential air conditioning is not limited to mansions, but can be made to the better homes of all sizes.

The question "What did you pay for air conditioning?" is, of course, of great interest to everyone in the industry. A small portion, about 5%, paid less than \$1000. A much larger group, some 21%, paid from \$1000 to \$1500. Still more, 24%, paid from \$1500 to \$2000; 15% paid \$2000 to \$2500; and 15% paid \$2500 and over. The balance, some 20%, did not remember what they paid and it is presumed these people had no financial need to remember.

Taking the entire country as a whole, operating costs averaged less than \$30 per month, which substantiates the information obtained in our survey made some 10 years ago, which was about the same. At the same time, circumstances alter cases, and certain owners complained of high operating costs.

From the standpoint of the air conditioning industry at this time, however, the most revealing question was "Do you have any suggestions as to how air conditioning can be improved?" Of the owners questioned, some 39% said they were

completely satisfied, another 40% said they were satisfied but offered some suggestions for improvement, and a final 21% said they were not fully satisfied. Hardly a good batting average for a growing and expanding industry.

Not fully satisfied with bare statistics alone, we requested that the comments obtained from owners be turned over to this magazine for study and background information. These answers contained some important and very interesting information, published here for the first time.

While many owners of residential air conditioning were laudatory in their remarks about the equipment, others were facetious in their answers ("it's a luxury—like my wife") and others were bitter because they did not get good service or the unit became inoperative for one reason or another. For the most part, however, comments were on the bright side, and suggestions for improvement were well thought out.

One owner said, "If I were ever to build another home, I would forego some other part of the house rather than do without year-around

air conditioning." The same owner liked the comfort best, but commented the house was cleaner and free from outside noise, as windows and doors were kept closed. With a cooling tower, he reported an operating cost of \$15 per month for a home with six large rooms and two baths (location: Alabama). As to improvement, he would like to see both heating and cooling units made smaller.

Another owner in Oklahoma said he liked comfort, plus a dry basement summer and winter. He reported operating cost of about \$15 a month, and as to improvements said he wished the unit would make ice cubes.

### Water Costs Decried

Many people requested that water costs be reduced. One owner, who evidently did not understand the theory of refrigeration, suggested that the "refrigerant be used to cool the gas and not use so much water." The system he suggested, if achieved, would rival perpetual motion.

The problems involved in putting air conditioning in older homes were brought to light by one individual who said that when the unit failed to handle two second floor bedrooms he found the duct running to the second floor was not large enough to handle one. It was necessary to replace the duct at a cost of \$300.

### Ductwork Is a Problem

This has been a serious problem for years. The owner went on to say that the dealer failed to check old duct work before estimating installation. Too often air conditioning dealers assume that because the upper floors of older homes heat satisfactorily, they can be cooled with the same ducts. Often two upper bedrooms may be heated from a single stack, aided by warm air rising up the open stairway. Under these conditions, the bedrooms cannot be cooled without increasing the size of the ducts.

An owner having a system equipped with cooling tower and electrostatic air filters (total cost \$5000) said he would like to have "lamp tubes in the system to kill germs in the air." He went on to say that the cooling tower was noisy,

*Continued on page 91*

"Bill, you're really proud of that Superior Mechanics Guild sticker."

"I sure am, kid. As proud as you are of your reputation as a hotshot trouble-shooter. I'm proud of the tools in that kit too."

I felt lucky when they picked me for that award. You'll be the next in the shop to get it—so save your wise talk. You're smart at using your head. Be smart with your hands, too, and never use anything but those Bonney knuckle-savers.

Remember. Your local Bonney jobber, as well as Bonney, stands behind the tools you buy. He has Bonney tools priced to fit your needs as well as your pocketbook.

**BONNEY**  
TOOLS

\* The new Bonney economy-priced line

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Circle No. 55 on Reader Service Card

## USEFUL LITERATURE On Air Conditioning

To obtain the information described below, simply circle on the postcard in this issue the key numbers of the items you wish to receive. We will forward your requests to the companies concerned.

**HUMIDITY CONTROL** for industrial air conditioning installations is featured in Instrumentation data sheet No. 10.5-4a presented by the industrial division of Minneapolis-Honeywell Regulator Co. Schematic drawings show plumbing and electrical lines for both control of air washer in a central air conditioning system and a single-zone temperature and humidity control in an air conditioning system. System benefits, applications and complete specifications are included.

Circle No. 121 on Reader Service Card

**AIR CONDITIONING UNITS** manufactured by Young Radiator Co. are described and illustrated in catalog No. 7550 available from the firm. Drawings of both vertical and horizontal type units give complete dimensions, physical and capacity data are listed and information on particulars of casings, fans, drives, heating coils, cooling coils, humidifiers etc., is included. In catalog 253 the company lists the same type information on unit heaters, heating and cooling coils and convectors.

Circle No. 122 on Reader Service Card

**GENERAL PURPOSE RELAYS** especially applicable for air conditioners and electronic equipment are detailed in bulletin GEC-275C presented by General Electric Co. Type CR2790-E relays are illustrated with several mounting methods and a cut-away diagram displays the "works" of the relays. Contact, coil and hp ratings are listed. Wiring symbols, complete dimensions and weights are also included.

Circle No. 123 on Reader Service Card

**RESIDENTIAL AIR CONDITIONING** through use of cooling units and blowers attached to existing or new warm air heating systems is described in catalog sheets available from Refrigeration Economics Co. Shown are sectional drawings of cooling sections and blower sections with dimensions. Weights, duct sizes, capacities and list prices are included. Three different applications of air duct cooling are diagrammed.

Circle No. 124 on Reader Service Card

**MECHANICAL DRAFT COOLING TOWERS** are described in the 4-page bulletin 47-B offered by Binks Mfg. Co. Included in this bulletin are complete performance data and specifications on the three following series of cooling towers: Type 3-B, single blower with capacity range from 1 to 36 tons refrigeration; Type 3-B, twin blowers, 38 to 72 tons; and Type 3-B, triple blowers, 88 to 108 tons.

Circle No. 125 on Reader Service Card

*Want more Useful Literature?  
Turn to page 95.*

Check! →

**The finest concealed  
Air Conditioner!**



DRAYER-HANSON

**SPOTAIRE**

REMOTE AIR CONDITIONER

*Quiet beyond belief!*

The Spotaire HRC Series individual room unit air conditioner that heats and cools is engineered for concealed installation and designed to function efficiently without noise...so quiet that it's beyond belief. Just check all the advantages offered by the Spotaire Air Conditioner.

The Spotaire VRC Series (also illustrated) surpasses all other floor mounted individual room air conditioners in appearance and quietness of operation.

- Heats or cools, ventilates, filters and dehumidifies.
- Individual room control for convenience, comfort and economy.
- Lower operating and installation costs over other systems. Also eliminates costly ductwork.
- For residential or commercial applications.
- No floor space required.

Long established in commercial refrigeration and air conditioning, Drayer-Hanson offers a complete line of air conditioning and commercial refrigeration products.



Write for details and catalog.



Limited number of territories available for qualified manufacturer's representatives

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# WHAT'S NEW...

## in Air Conditioning Equipment

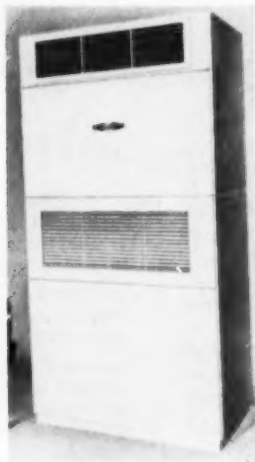
For further information on any of these products, simply circle on the postcard provided in this issue the key numbers of the items in which you are interested. Your requests will be forwarded directly to the companies concerned.

(For more NEW PRODUCTS turn to page 98)

### Unit Air Conditioner

**Product:** Addition of 3-hp unit to line of air conditioners.

**Manufacturer:** Frick Co., Waynesboro, Pa.



**Features:** Units include cooling surfaces larger than ordinarily used, insulated condensers and cabinets of substantial construction. Other air conditioners in this line are available in sizes of 5 and 7½ hp.

Circle No. 181 on Reader Service Card

### Residential Cooling Tower

**Product:** Residential cooling tower designed for home and small building air conditioning installations.

**Manufacturer:** Halstead & Mitchell, Pittsburgh, Pa.

**Features:** Carries manufacturer's 20-year guarantee on the wetted deck surface. Gravity type distributing pan eliminates extra pumping head required on spray type towers, cuts down windage

losses due to atomizing of water. Over 97% of cooling water saved and recirculated. Automatic float controls sump level. To combat corrosion, drive shafts and fans are made of stainless steel, and the electrically welded sheet-steel cabinet is finished with individual coatings of Vinsynite, Vinyl Zinc and chlorinated rubber. Weather shield for external components protects



them against icing and other weather conditions. Bolts used in construction are "Everdur" for ease in disassembly after years of service. Inlet on back of tower makes interior of the unit accessible for cleaning.

Circle No. 182 on Reader Service Card

### Home Air Conditioners

**Product:** Line of "Unitaire" home air conditioners for use alone or with a forced warm air heating system.

**Manufacturer:** Westinghouse Electric Corp., Pittsburgh, Pa.

**Features:** The RU-31 3-hp model stands only 5' high, is 28¼" wide and 21¾" deep. May be ob-

tained with or without fan assembly, with bottom or back return air inlet, and with compressor motor voltages of 208/220 volts, 60 cycle, 3 phase, or 230 volts, 60 cycle, 1 phase. Can be thermostatically controlled. Model RU-51, of 5-hp, is available for homes with higher heat load. Measurements are slightly larger than those of RU-31. Both models have hermetically sealed motor-compressor unit with a refrigerant cooled motor. Since unit absorbs its own heat, may be installed in closets, under stairs, etc.

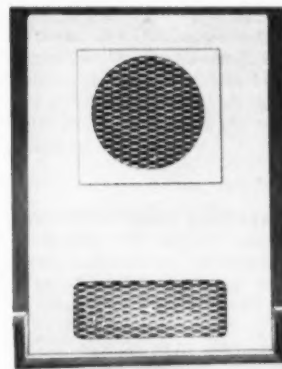
Circle No. 183 on Reader Service Card

### Zone Control Radiator

**Product:** Model 9 "Air-Rad" combination cooling system and zone control radiator.

**Manufacturer:** Penn Boiler & Burner Mfg. Corp., Lancaster, Pa.

**Features:** Fractional type cooling system cools a single room or a



group of rooms without cooling entire building. Cooling capacity 51000 Btu. May be installed for heating alone with cooling feature added later without changing a single pipe. Designed to fit between standard studs. Only roughing-in

materials needed are  $\frac{3}{4}$ " tubing and  $\frac{3}{4}$ " elbows. Installed recessed in wall. Removable condensate pan placed in bottom of unit below exchanger drains to basement floor pan or direct to sewer. Weighs only 24 lbs., provides 9,000 Btu heating capacity. When blower is non-operative and water at 200 F flows through the radiator, output is only 90 Btu. When blower is operating at full speed and boiler water is circulating at 200 F, unit has 9,000 Btu output. Unit reaches full heat output in 25 to 30 seconds.

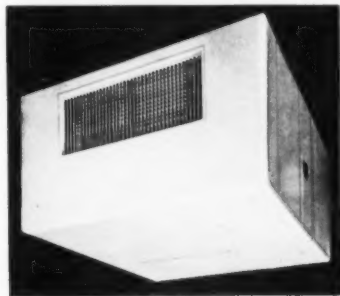
Circle No. 184 on Reader Service Card

#### Air Conditioning Units

**Product:** Ceiling mounted air conditioning units.

**Manufacturer:** Kramer-Trenton Co., Trenton, N. J.

**Features:** May be used in a finished interior or remote with or without ducting. Muggy-air-control squeezes extra moisture from air on



muggy days without excessive cooling. Cooling coils have two independent refrigerant circuits, one above the other. Solenoid valve can cut out upper circuit on high humidity which sharply reduces refrigerant temperature and increases dehumidifying effect. Control can be operated manually or automatically by use of a humidistat. Available in four models with 3 to 10 ton capacities, conditioners can be furnished with direct expansion coils, water or steam coils and humidifier. "Blow-through" design reduces sweating by exposing only small portion of casing to colder air leaving coil, which is itself heavily insulated to eliminate sweating on casing exterior. Fan motor assembly placed in air intake, exposing it to room temperature at all times, thus eliminating motor overload and bearing lubricant loss from hot air

## GENERAL'S

### FULL DISPLAY WALL CASE

BRILLIANT  
FULL VISION DISPLAY  
FOR DAIRY, BEVERAGE  
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MODEL DWS-4

- Available in 4 1/2, 6, 8 and 12 foot Lengths
- Double glass smooth gliding stainless steel-trim doors
- Featuring porcelain front and porcelain interior
- Heavy-duty top & bottom coils —Hooked Up

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\* 1928 of Highest-Quality  
Refrigeration Equipment

For Eye-Level



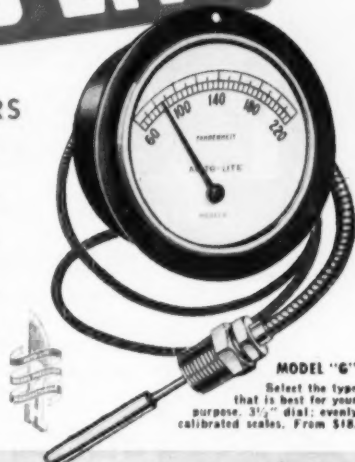
Readings...

# AUTO-LITE

#### TEMPERATURE INDICATORS

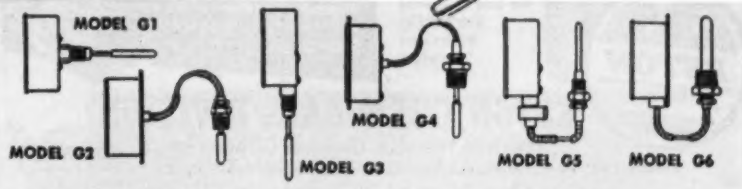
- Precision-built indicators provide accurate temperature readings.
- Low-cost protection . . . due to large, specialized production.
- Wide selection of dial ranges to meet specific requirements.
- Choice of stock types available as shown.
- Send for new catalog, describing many thermometer styles.

THE ELECTRIC AUTO-LITE COMPANY  
INSTRUMENT AND GAUGE DIVISION  
TOLEDO 1, OHIO  
NEW YORK • CHICAGO • SARNIA, ONTARIO



MODEL "G"

Select the type that is best for your purpose. 3 1/2" dial; evenly calibrated scales. From \$18.



leaving heating coils, and corrosion of fan assembly from moisture carry-over from cooling coils. Fan and motor assembly are rubber-mounted independently of the casing.

Circle No. 185 on Reader Service Card

#### Filter-Drier

**Product:** "Super-Flo" free-flow filter-drier designed for air conditioning and refrigeration systems.



**Manufacturer:** Remco, Inc., Zelienople, Pa.

**Features:** Combination of fiberglass depth filter, molded drying element and a spun-end copper shell. Massive fiberglass bag removes large amounts of foreign matter from re-

frigerant stream. As safety bonus, 30 x 150 mesh Dutch weave outlet filter stops all particles larger than .0046". Molded "Remcal" drying unit removes moisture both chemically and physically, absorbs acids to point below danger from corrosion. Efficient through temperatures up to 150 F. Flow channel and flow graduator design and large fiberglass filter eliminate pressure drop. Flow channels permit refrigerant to flow in direct contact with drying agent.

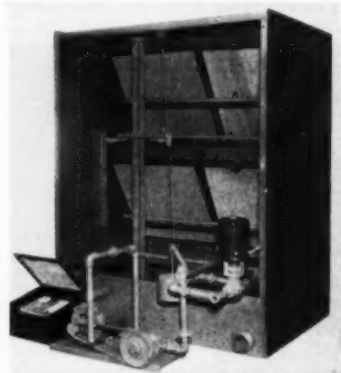
Circle No. 186 on Reader Service Card

#### Self-Washing Filter

**Product:** "Far-Air" self-washing filter.

**Manufacturer:** Farr Co., Los Angeles, Calif.

**Features:** Test buttons have been added, enabling operation of the washing and re-oiling mechan-



ism without disturbing the automatic cleaning cycle. Water lines drain automatically as protection against freezing. Drain unit is spring actuated, positive action, requires operating pressure of only 20-25 lbs. Filters are equipped with corrosion-resistant 20 x 20 x 4" units, set at 30° angle toward air flow. Series of automatic water and oil jets on entering air side periodically wash and re-oil filter units to maintain maximum filtering efficiency. A "deluge" valve minimizes fire hazard in unit. Valve is kept closed by a cable incorporating a fusible link which parts at a temperature of 160 F, releasing a weighted handle that opens the valve, allowing continuous streams of water to be played on filter units. No oil sump to create fire hazard; all excess oil is immedi-



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#### METHYL CHLORIDE • SULFUR DIOXIDE

Distributor of "Kinetic" Chemicals' "Freon" refrigerants  
"FREON 11"—"FREON 12"—"FREON 21"  
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ately flushed down drain. Filters available in capacities to handle any cfm requirements are shipped complete, all parts operable.

Circle No. 187 on Reader Service Card

#### Dehumidifier

**Product:** Electric dehumidifier for residential and commercial applications.

**Manufacturer:** Mitchell Mfg. Co., Chicago, Ill.

**Features:** "Humidity-Dial" incorporated in units indicates at a glance when dehumidifier should



be operating to prevent moisture damage. Dial registers relative humidity, has thermometer for added convenience. Dehumidifier is built around new air drying system which removes 2 to 3 gallons of water every 24 hours. Water drains off into furnished galvanized steel container or permanent drain. Unit has 1/8-hp compressor motor, operates on 60/115 a.c. current. Controls closed area up to 10,000 cu.ft. Automatic timer in unit enables user to set it for operation for just the number of hours necessary to control moisture. Carries 5-year warranty, is set on 4 casters for mobility.

Circle No. 188 on Reader Service Card

#### Duct Liner

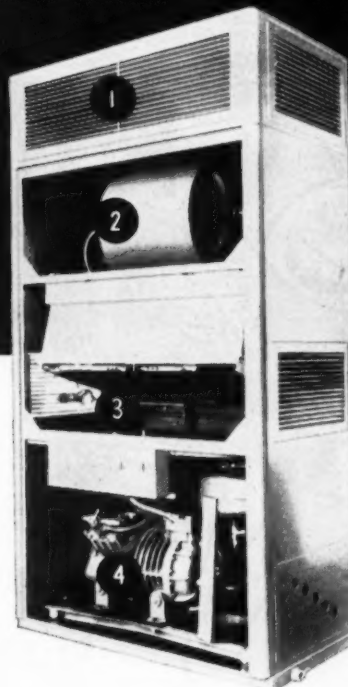
**Product:** Flexible duct liner for lining the interior of air conditioning or warm air ducts.

**Manufacturer:** Owens-Corning Fiberglas Corp., Toledo, Ohio.

**Features:** High noise reduction efficiency eliminates much of the noise that normally travels through

## AIR CONDITIONING UNITS HAVE TO BE RELIABLE...

Every time you recommend an air conditioning unit, you lay your reputation on the line. The unit has to meet the requirements of the job in each and every case. With BAKERAIRE, constant, accurate output is assured by balanced functioning of all parts.



- 1 Plenum diffuses air in any direction by simple adjustment of louvers.
- 2 Slow speed, full air capacity of the Fan Section balances with
- 3 The Coil Section, in which a 5 row coil has ample surface to remove moisture and heat, balanced with
- 4 The quiet efficient Compressor Section where the controls are integrated for automatic operation and complete safety protection. For final protection the interlock relay prevents short cycling of the compressor unit.

These features cut installation and maintenance time costs:

- All water connections are run to an external utility panel, eliminating inconvenient internal connections
- All electrical connections are integrated in one panel in front of the unit
- All functional parts are easily accessible through the removable panels

For further information, just write to:

**BAKERAIRE CORPORATION**  
South Windham, Maine  
Offices in Principal Cities

Circle No 60 on Reader Service Card



air ducts. Thermal insulating properties allow metal surface of ducts to act as vapor barrier, prevents condensation on ducts carrying cool air through areas of high humidity. May be installed on metal sheets before they are bent to form ducts. It may be cut to match the size of un-formed sheets and adhered to the sheets which are then formed in a sheet metal brake to produce completed duct with liner already installed. Insulation is given a light coating of fire-safe neoprene.

Circle No. 189 on Reader Service Card

#### Ceiling Air Diffuser

**Product:** "Kno-draft" model KH-L combination diffuser and recessed conical lens lighting fixture.



**Manufacturer:** Connor Engineering Corp., Danbury, Conn.

**Features:** Unit furnished complete, is made in several sizes or neck diameters. Accommodates 100

to 200-watt bulbs. Heating capacity ranges from 7000 to 23,000 Btu per hour. Cooling capacity ranges from 80 to 350 cu.ft. of air per minute. Easily installed between standard size joints. Unit can be fitted with many types of lighting fixtures.

Circle No. 190 on Reader Service Card

#### Humidity Control

**Product:** Moisture control and relative humidity control instrument.

**Manufacturer:** Niagara Blower Co., New York, New York.

**Features:** Instrument is applied to its manufacturer's method of air conditioning in which air is humidified directly by a liquid absorbent. The amount of moisture to be permitted in the conditioned air is gov-



helps you  
bring home  
the bacon

You can bring home more profits with usAIRco because you can offer a complete line of "packaged" refrigeration equipment, unsurpassed in engineering quality. usAIRco gives you a full range of sizes and models to fit every job.



**REFRIGERATED KOOLER-AIRE.** 3 sections — compressor, evaporative condenser and cooling section—in one package. Built in 3 to 50 H.P. capacities.

**STORE CONDITIONERS.** 5 models—2 to 10 H.P. Protected by industry's most generous Five-Year Warranty.

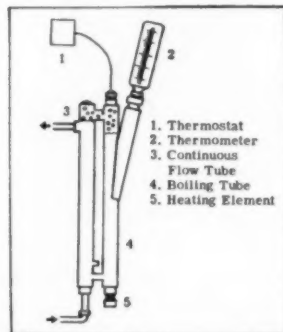


**WINDOW TYPE ROOM CONDITIONERS.** Available in  $\frac{1}{2}$ ,  $\frac{3}{4}$  and 1 H.P. models, with thermostatic control. All models have Five-Year Warranty and liberal parts and service allowance.



Address inquiries to Dept. CR653  
UNITED STATES AIR CONDITIONING CORPORATION  
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30 YEARS OF AIR CONDITIONING



erned by the concentration of the absorbent liquid. Concentration has a direct relation to the boiling point of the mixture of absorbent liquid and water. Instrument consists of a tube equipped with a heating element. A "sample" of the liquid, taken after reconcentration on its return flow to the air conditioner continuously enters the tube and is heated to its boiling point. A thermostat with sensing element in the tube is set at the boiling point desired. Thermostat operates concentrator unit to furnish greater or less concentration of the absorbent liquid as called for by the thermostat setting.

Circle No. 191 on Reader Service Card

#### BRANCH OFFICE MOVED

Powers Regulator Co.'s Houston, Tex., branch office has been moved to a new location at 3219 Milam St.

## THE HEATING SIDE . . .

*Continued from page 84*

and asked "Why not bury the hot gas pipes in the ground and let nature cool them?"

A Topeka, Kans., owner wonders why air conditioning contractors do not advise owners to use waste water on shrubs and the lawn. The water from his system now drains into the sewer and he is afraid this practice may soon be prohibited, due to lack of sewer capacity. He reports that it takes at least 20 minutes for his system to get going, so it is apparent no one has ever instructed him in its operation.

### User Calls It Luxury

Out in Kansas, one man reports light bills of \$53.64 a month and water bills of \$12, even while limiting the use of the system to the evening only. He says friends lose interest in having this type of equipment when he tells them it costs over \$1 a day. He calls it a luxury a salaried man should not try to own.

We know nothing, however, from this report, about the construction or insulation of his home. We do know that expecting the unit to cool the house during the evening hours is more expensive than letting it run for longer periods to get the total heat load out of the building.

### No Operating Instructions

The above experience is another example of lack of instruction in the proper operation of the air conditioning system. Use and care booklets are supplied with automobiles, major appliances and many other products, but if people get them with their residential air conditioning systems they apparently do not read them.

Still another owner in Indiana hits on a problem that should be of interest to all air conditioning contractors and dealers. He suggests an *additional* source of fresh air be provided for use with his summer air conditioning. He would also like to have some kind of air purifying unit built into the equipment. (Note: Units of the type he suggests are available today.)

Others who found water bills excessive wished that someone had

sold them an evaporative condenser, cooling tower, or some other type of water saving equipment. Many asked for closer control of the entire operation. Others suggested a thicker (deeper) expansion coil, to do a better job of taking moisture out of the air.

An unusual benefit was cited by one owner who said, "Before the installation we had one child and fought heat rash and his inability to get a nap in the afternoon. The second child, born after air conditioning, has never had a bit of heat

rash and you can put her down for a nap at any time."

Minor complaints were, reduction in water pressure in the house, controls that were not tamper-proof, and noise. But the most common complaint was uses too much water. This complaint was repeated again and again and again. Thus, the survey indicates that the manufacturers of water saving equipment may have a stake in the residential air conditioning business as large or larger than the condensing equipment manufacturers.

*Features  
that spell  
value...*

## Grand Rapids Brass Refrigerator Hardware

Whether for original equipment or replacement, Grand Rapids Brass locks and hinges provide a rugged, handsome finishing touch that spells quality and value. And they cost no more. That's why leading manufacturers and jobbers specify Grand Rapids Brass. You can be sure with any Grand Rapids Brass lock—when it trips . . . it grips!

### THE ALL-NEW EDMOUNT LINE



THE EDMOUNT LOCK

THE EDMOUNT HINGE

The NEW, heavy-duty Edgemount Lock is chrome-plated, operates easily, installs quickly. Surface-mounting eliminates mortising of wood or stamping. Fully reversible lock mounts on either side of door, handle up or down. Strike adjustment  $\frac{1}{8}$ " to  $\frac{3}{8}$ ".

Oil impregnated bronze bushings in this hinge provide two-way protection against tension and thrust. Requires no lubrication. A heavy-duty hinge.

### THE POPULAR SURFACE-MOUNTED LINE



Reversible Lock



Reversible Hinge

Write for Complete Illustrated Information

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DIVISION OF CRAMPTON MANUFACTURING COMPANY  
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Suppliers to the Nation's Leading Automotive, Refrigeration and Plumbing Manufacturers



**SELECT** the oil designed for the operating conditions, but *be sure* that the oil is non-waxing. Use *Texaco Capella Oil (Waxfree)*. There is a complete range of viscosities and *Texaco Capella Oil (Waxfree)* will not precipitate wax in systems — even down to minus 100° F.

*Texaco Capella Oil (Waxfree)* is noted for its low haze and floc temperatures . . . noted for its resistance to oxidation and freedom from moisture. *Texaco Capella Oil (Waxfree)* will not react with refrigerants and keeps compressors and systems clean and trouble-free.

You can get *Texaco Capella Oils (Waxfree)* in 5-gallon, 1-gallon and 1-quart containers — and in 55-gallon drums — all refinery-sealed to main-

## How to Choose the RIGHT OIL for Compressors

tain the high purity and quality of the product.

The Texas Company, 135 East 42nd Street, New York 17, N. Y.



# TEXACO Capella Oils (Waxfree)

FOR ALL REFRIGERATING AND AIR CONDITIONING COMPRESSORS

**TUNE IN:** Tuesday nights on television—the TEXACO STAR THEATER starring MILTON BERLE. See newspaper for time and station.

Circle No. 63 on Reader Service Card

JUNE, 1953 • COMMERCIAL REFRIGERATION

# THE COMMERCIAL REFRIGERATION and AIR CONDITIONING

## APPLICATIONS MANUAL

by William M. Brewer

Readers are invited to submit their problems to this department. Each letter of inquiry will be answered personally by the author. All problems should be clearly and completely stated and addressed to: COMMERCIAL REFRIGERATION AND AIR CONDITIONING, Manual Dept., 1240 Ontario St., Cleveland 13, Ohio.

### Spraying Roof with Condenser Water Substantially Reduces Cooling Load

**A** GOOD percentage of package air conditioning prospects are small offices and stores in single story, flat roof buildings. Due to the solar heat gain through the roof, these prospects really suffer through the summer. In analyzing the total heat gain to this type of structure it can be seen that as much as 20% of the total heat load is due to the temperature rise of the roof above outside temperature caused by the sun.

As an example, recently we figured a load on a small office having an area of 1500 sq. ft. under a flat roof. The survey indicated  $6\frac{1}{2}$  tons of refrigeration would be required and about 3,000 cfm of air. Without the solar heat gain on the roof this could be handled easily with 5 tons of refrigeration. The problem was to decide what size unit to try to sell the prospect.

To guarantee design conditions it would be necessary, of course, to go to a  $7\frac{1}{2}$  ton unit. This not only made the initial and operating costs quite high for this size area, but it also meant that over twelve air changes per hour would be required to deliver the cooling capacity. This high rate of air change is difficult to handle in offices without excessive drafts and air motion affecting the personnel.

The simple answer to problems of this type is to spray the roof with the condenser outlet water instead of wasting it down the drain. If this water is

evenly distributed in fine spray from just above the roof level, the temperature build up of the roof from the sun can virtually be eliminated. The cooling effect is primarily from the evaporation which is produced by breaking the water into fine spray particles.

Information as to types, sizes and spacing of the spray heads is available in detail from the catalogs of several reliable spray head manufacturers.

Before specifying such equipment, it is necessary to determine the total quantity of water available to the

sprays. It is safe to use a figure of 2 gallons per minute per ton if your entering water is about 75 degrees F. Next, the pressure at the sprays must be calculated, considering the loss through the lines, water valve, and condenser, plus the lift to the roof.

With the water quantity and pressure available, the spacing and size of the sprays can be easily picked from the manufacturers catalogs. All spray piping should be installed so that it pitches back to the unit drain for proper draining in the winter.

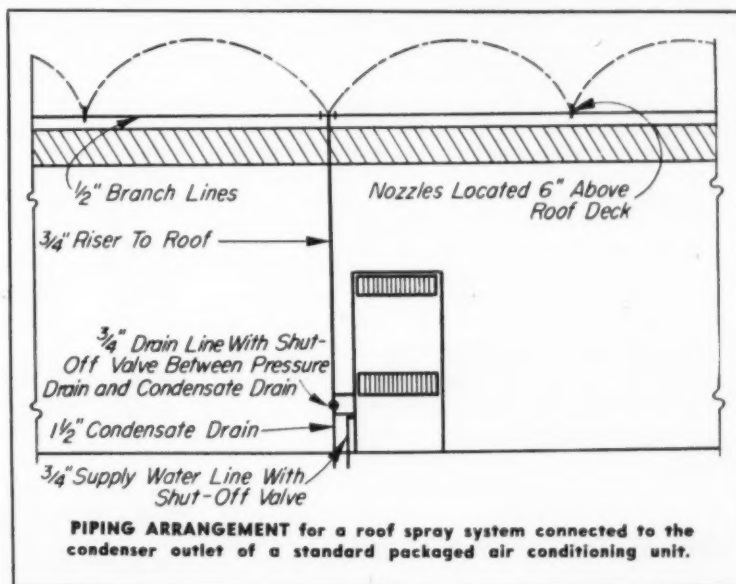
This roof spraying can be used in many applications to reduce equipment size, operating costs, or excessive air motion.

### PIETSCH CO. TO HANDLE USAIRCO, NAT'L HEATER

The H. A. Pietsch Co., Pittsburgh, has been organized to handle engineering and sales of equipment for commercial and industrial heating and air conditioning, processing and combustion in western Pennsylvania, eastern Ohio and West Virginia.

Among the nationally known manufacturers of air conditioning and heating equipment which the new firm will represent are: United States Air Conditioning Corp., and National Heater Co.

The new firm was formed by H. A. Pietsch, formerly chief engineer of the heating department of Dravo Corp. Pietsch was instrumental in industrial space heater design.





# Here's a "Package" for Extra Profit

*from*  
**KELVINATOR**

**Low cost dairy case for small stores.**

**Low cost ice cream fountain for small stores, restaurants, etc.**

**Frozen Food Merchandising Cabinets for small stores and specialty use in supermarkets.**

**Water Coolers—for supermarkets, restaurants, etc.**

**Condensing Units (sealed and open).**

Kelvinator—the name your customers KNOW means extra value, extra long life, and trouble-free service—now offers you a varied line of commercial refrigeration products to help you get extra profits. A wide choice of condensing units, both sealed and open-type . . . Frozen Food Merchandising Cabinets for use in small stores and specialty-use in

supermarkets, ideal to supplement any line of large, expensive cases you may now be handling . . . Water Coolers, a must for the supermarket or restaurant . . . a low cost Dairy Case, the answer to a small store's dairy goods merchandising problem . . . and a new low cost Ice Cream Fountain for small restaurants or confectionery stores—all give you the traditional Kelvinator quality and performance, at lower prices! All designed to make extra sales and extra profits for you.

Commercial Dept., Nash-Kelvinator Corp., Dept. CR-6  
14250 Plymouth Road, Detroit 32, Michigan

Gentlemen: I am interested in your "Package" for extra profit.

- ☐ Send complete product, pricing and financing data.  
☐ Have your representative call.

NAME \_\_\_\_\_

STREET ADDRESS \_\_\_\_\_

CITY \_\_\_\_\_ ZONE \_\_\_\_\_ STATE \_\_\_\_\_

**Act now—SEND THIS COUPON FOR  
FULL INFORMATION—DO IT TODAY!**

***Kelvinator***  
**The Name that Sells... The Name that Satisfies!**

Circle No. 64 on Reader Service Card

JUNE, 1953 • COMMERCIAL REFRIGERATION

**USEFUL**

**BULLETINS • BOOKLETS • CATALOGS**

The publications listed below are available to readers without charge. Simply circle on the postcard in this issue the key numbers of the items you wish to receive. Your requests will be forwarded directly to the companies concerned.

**INDUSTRIAL CONTROLS** manufactured by Brown Instruments Div., Minneapolis-Honeywell Regulator Co., are described and illustrated in Catalog 8305 available from the company. Included are facts on non-indicating electric, electronic and pneumatic controllers for temperature, pressure and humidity. Also included are pneumatic and electric valves, switches and relays. Specifications, dimension drawings, application data and ordering information are listed.

Circle No. 127 on Reader Service Card

**FULL DISPLAY WALL CASE** refrigerator units are presented in a catalog sheet available from General Refrigerators Corp. A photograph illustrates one unit and three drawings show other models. Features are listed and complete specifications for all models are included. The units are designed for full-vision display of dairy, beverage and meat products.

Circle No. 128 on Reader Service Card

**NOW AVAILABLE** in any size and shape, "Strux" cellular cellulose acetate for use as insulation material is described in a 4-page catalog presented by Strux Corp. Featuring illustrations showing the various sizes and shapes available, the catalog also lists applications, mechanical and physical properties.

Circle No. 129 on Reader Service Card

**ALTITUDE CHEST CHAMBERS** are covered in a 4-page bulletin presented by Tenney Engineering, Inc. Featuring the "Tenneyzphere" chamber line, the catalog covers test chambers for simulating altitudes from sea level to 80,000 ft.; temperatures from -100 to 200 F; and relative humidities from 20 to 90%. Performance data, standard and special features, specifications, operating characteristics and construction features are listed. Photographs show interiors and exteriors of chambers and control panels.

Circle No. 130 on Reader Service Card

**"O" RINGS** of "Victoprene" synthetic rubber compound are covered in catalog No. 700 available from Victor Mfg. & Gasket Co. All technical data required for specifying and ordering is included in the catalog with information for the original equipment and replacement markets.

Circle No. 131 on Reader Service Card

**PICTURE WINDOWS** are not often associated with electric float switches but bulletin 243 presented by Mojonner Bros. Co. describes a line of electric float switches that feature "picture windows". Drawings and photographs show switches with and without chambers, as well as welding flanges, sight glasses and typical applications.

Circle No. 132 on Reader Service Card

(More Useful Literature on page 96)

**NOW YOU CAN COMPETE!**

... here's your **EXTRA PROFIT** line of  
\* **LECTRIK-ICE**

**WATER COOLERS**

YOUR LOW PRICE  
**\$129.00**

\*TRADEMARK  
REG. U. S. PAT. OFF.



MODEL E-550  
SHOWN

UNIFLOW offers a Complete line of **LOW COST** Water Coolers designed for dealers **EXTRA PROFITS** and Customers satisfaction. Write for • **FREE** • "Extra Profits" brochure."

**UNIFLOW**

MANUFACTURING COMPANY  
1513 East Lake Road  
ERIE, PENNA.

"A Leader In The Water Cooler Field For Over 20 Years"

Circle No. 65 on Reader Service Card

# AIR CONDITIONING AT ITS BEST! WITH "ICE-CELS"



## COOL COMFORT FOR THE CONGREGATION OF Highland Park Methodist Church DALLAS, TEXAS

Installation of five DOLE "Ice-Cel" Units in basement of this church utilizes two 15 H.P. compressors . . . .

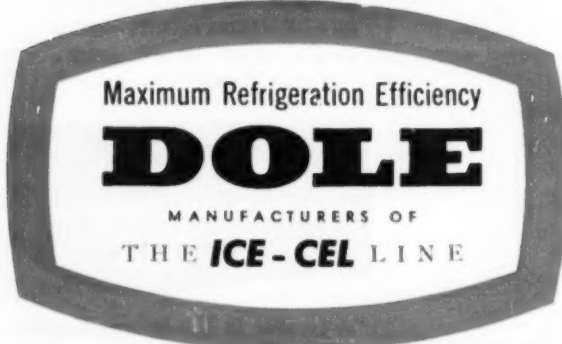
Provides 80 tons of refrigeration for two and one half hours — or a total of 200 ton hours. DOLE "Ice-Cel" Units are available for low cost installation in churches, cafeterias, halls, mortuaries, offices and retail stores. WRITE FOR CATALOG B.



### DOLE REFRIGERATING COMPANY

5942 N. Pulaski Road, Chicago 30, Ill.  
103 Park Avenue, New York 17

In Canada: Dole Refrigerating Products, Ltd.  
44 Elgin Street, Brantford, Ontario



Circle No. 66 on Reader Service Card

## USEFUL LITERATURE . . .

*Continued from page 95*

**CLOSE COUPLED CENTRIFUGAL PUMPS** from ¼ to 1½-hp are described and illustrated in a two-color catalog sheet available from Lancaster Pump & Mfg. Co., Inc. Describing type M unit pumps, this catalog sheet furnishes construction features and price and specification tables. Performance curves are presented in graph form. Capacity and selection tables are also included. Unit pump catalog is available for additional information not included in catalog sheet.

Circle No. 133 on Reader Service Card

**THREE NEW IMPROVED TYPES** of Flexaust spiral wire reinforced flexible hose are described in a catalog (No. 35) prepared by American Ventilating Hose Co. Covering types CWL, CWC, and CWY which replace types CWS, CWM, CWR and RS, the illustrated catalog lists possible uses and applications, installation data and other pertinent information.

Circle No. 134 on Reader Service Card

**HIGH SIDE CONTROL AND ALARM** and low side refrigerant level control are two applications of Belmont liquid level controls and gages described in folder LL4-453 offered by Thermo Instruments Co. Included in the folder are a complete description of the principle of operation, special applications, complete specifications and schematic drawings for alternative installation arrangements.

Circle No. 135 on Reader Service Card

**ONE HAND OR EVEN TWO** are gained by using "Eutec-Tin-Weld", a solder-paste-flux combination described in literature available from Eutectic Welding Alloys Corp. Drawings illustrate how TinWeld is applied, comparing old methods to new for time- and labor-saving features. Strength of bond, application directions and photographs of many uses are included.

Circle No. 136 on Reader Service Card

**METAL AND WIRE BRAIDED HOSE** is the topic of a two-color data book prepared by Universal Metal Hose Co. Designed for engineers and purchasing agents alike, data book No. U-111 contains information on application, temperature ranges of various types of metal and wire braided hose, dimensions, couplings, and assemblies. Construction features are explained in sectional drawings and photographs.

Circle No. 137 on Reader Service Card

**FOUR BASIC TYPES** of timing available with a photoswitch electronic timer (30HL1) are described in bulletin PC 5010 presented by Photoswitch, Inc. The four types of timing — interval, delayed action, automatic repeat and programming — are discussed, with explanations of the operation of each type. Included in the bulletin are data on the flexibility of the unit, operational information and complete specifications.

Circle No. 138 on Reader Service Card

*Want Useful Literature on  
AIR CONDITIONING?  
Turn to page 85.*

THE YORK AUTHORIZED  
JOBBER —  
**YOUR PARTNER  
IN PROGRESS!**

He knows what you need  
to hold accounts and  
get new ones. He is  
well-stocked in  
refrigeration  
experience, as  
well as supplies.  
Rely on him.  
He's your  
partner in progress!

**MORE THAN 500,000  
CONDENSING UNITS  
& COMPRESSORS  
RELY ON YORK OIL  
FOR DEPENDABLE  
PERFORMANCE**

## YOUR CUSTOMERS KNOW THERE'S NOTHING FINER THAN YORK

When you tell a customer you're using genuine York  
Accessories and Supplies, that says it all. He knows  
*you* know what's best for his equipment!



### YORK TRIPLE-INSPECTED DOUBLE-TESTED VALVES AND FITTINGS

Each York Valve is double-tested  
at 300 lbs. per sq. inch pressure  
under water, before it leaves the  
York Factory, for overall tight-  
ness and tightness across seat.  
York-tested Valves won't leak.



**Long ago** York found that un-  
suited oil is the prime enemy of  
refrigeration performance. So  
York refines its own oils to  
insure uniformly high quality.  
The result is protection *plus* for  
your expensive equipment; *high*  
lubricity, *high* stability, *low* power  
requirements and *low* wear!

You pay no more for this super-  
premium oil. So it costs you less  
to have longer-lasting protection.

**Get York Super-Refined Oil**  
from the nearby York Branch  
Office, Authorized York Jobber  
or the Industrial Sales Engineer  
who calls on you. Or write to  
York Corp., York, Pennsylvania.

### IT ALWAYS PAYS TO USE YORK ACCESSORIES AND SUPPLIES

Air Filters	Hand Oil Pumps	Receivers
Automatic Controls	Ice Cans	Renewal Parts
Charging Connections	Motors and Pumps	Suction Traps
Cold Storage Doors	Oil	System Cleaners
Freon Refrigerants	Oil Traps	Valves and Fittings
	Gas Masks	Purge Devices

# YORK

REFRIGERATION AND AIR CONDITIONING  
HEADQUARTERS FOR MECHANICAL COOLING SINCE 1885





# NEW PRODUCTS

For further information on any of these products, simply circle on the postcard provided in this issue the key numbers of the items in which you are interested. Your requests will be forwarded directly to the companies concerned.

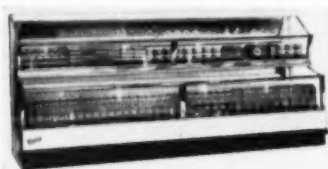
(For Air Conditioning Products turn to page 86)

## Display Case

**Product:** Model 1010 triple deck display case, part of "Golden Anniversary" line.

**Manufacturer:** Viking Refrigerators, Inc., Kansas City, Mo.

**Features:** Containing the Viking "Norsair" refrigeration system, case



was designed for dairy products or packaged meats. Lower shelf alone holds 440 quart cartons. Extra display afforded on third, non-refrigerated deck. Stainless trim, easily cleaned porcelain shelves, bright illumination, Thermopane on front and ends. Case is 56" high, 10' long. Easily extensible because there are no large partitions. Lower shelf lifts out for easy service access.

Circle No. 151 on Reader Service Card

## Walk-in Rooms

**Product:** Two sizes of "prefab" all purpose walk-in rooms.



**Manufacturer:** Victor Products Corp., Hagerstown, Md.

**Features:** Model RS-200 is 6' x 6' x 7' 6" high and is made of six

full size panels. Model RS-300 is 6' x 9' x 7' 6" high, with two additional panels 4' x 6" wide for side walls. Door opening is 2' 6" x 6', located on right side of any panel. Panels are butt-joined with square corners, are erected from the outside by use of bolts through tee nuts. Insulation is 4" Fiberglas between inside and outside of 24 ga. galvanized steel.

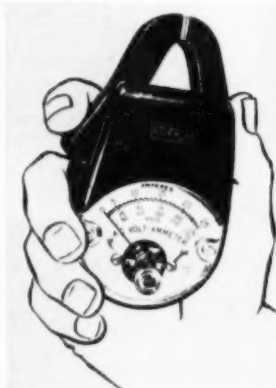
Circle No. 152 on Reader Service Card

## Volt-Amp Tester

**Product:** Pocket size "Amprobe Junior" volt-amp tester.

**Manufacturer:** Pyramid Instrument Corp., Lynbrook, N.Y.

**Features:** Unit is combination snap-around ammeter which meas-



ures current instantly without shut-downs or ammeter connections, and voltage meter which gives accurate voltage reading without guesswork on full 1.8" calibrated scale. Accuracy for both amperage and voltage is plus-minus 3% of full scale. To measure current without ammeter connections, snap trigger-operated jaws around one connector (insulated or uninsulated). To measure voltage, plug test leads into

instrument and clip to load. Three models available giving ranges from 0-10 amps ac, 0-125/250 volts ac to 0-100 amps ac, 0-125/250 volts ac. Ranges to fit special requirements available. Three inch d'Arsonval high-torque movement with Alnico 5 magnet. Probe jaws completely insulated, tapered for hard to reach wires. Dovetail transformer joints. Tester shaped and balanced for one-hand trigger operation.

Circle No. 153 on Reader Service Card

## Counter-Freezer

**Product:** Deluxe model 8-7 D check-out counter freezer.

**Manufacturer:** 4-Brothers Refrigeration Mfg. Co., Philadelphia, Pennsylvania.

**Features:** Custom built in range of sizes, available in either remote or self-contained models with Kelvinator hermetic unit. Redesigned self-service reflecting display case



has radius corners of quilted stainless steel, No. 430 finish. Fluorescent lights, 4" insulation, vapor-proof tank, bag racks at back, price panels are incorporated. Units are 26" wide, 36" high, and 5, 6, 7, 8, 9 or 10' long.

Circle No. 154 on Reader Service Card

## Absorbent Material

**Product:** "Andrite" dessicant.

**Manufacturer:** Ansul Chemical Co., Marinette, Wis.

**Features:** Dessicant is chemically treated gelatinous aluminum oxide hydrate in 1/8" diameter spheres. Designed for use in Ansul "T-Flo" drier, dessicant does not plug or channel, is efficient at temperatures up to 140 F. Material is non-corrosive, removes acid from refrigeration systems. Will not powder.

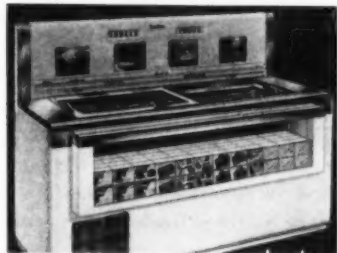
Circle No. 155 on Reader Service Card

### Frozen Food Merchandiser

**Product:** Model P-19 frozen food and ice cream merchandiser.

**Manufacturer:** Jordon Refrigerator Co., Philadelphia, Pa.

**Features:** With "panoramic vision" front, case is designed for both large and small stores. Two sliding doors across top enable easy



access to frozen foods. Full width of interior is visible through glass front of case. Superstructure contains place for 4 photographs, has three product title runways. Case finished in porcelain and stainless steel.

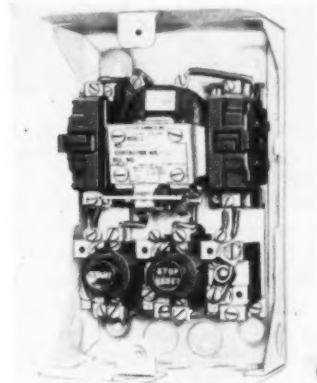
Circle No. 156 on Reader Service Card

### Magnetic Starter

**Product:** NEMA size O starter with wrap-around cover.

**Manufacturer:** Cutler-Hammer, Inc., Milwaukee, Wis.

**Features:** Five unit construction consists of 2 contact blocks, magnet coil, an armature and a 3 or 2-coil overload relay mounted on steel panel. Cover pulls off exposing



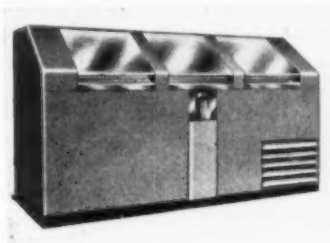
both sides and front for 180° accessibility. Each part can be removed without disturbing another part. 3-coil, adjustable overload relay permits 4 ratings from each heater coil by changing its position, affords protection within 3% of full load motor rating. Special

silver alloy double-break contacts can be inspected by pulling cover off starter. Complete contact block can be removed by loosening 2 screws; overload relay by turning out 2 screws. Armature, which pivots on roller bearings, and magnet coil easily replaced without tools. Complete panel, with all units assembled can be removed from metal case by loosening 3 screws. Terminals angled to face front, are equipped with solderless connectors. Finished in gray baked enamel.

Circle No. 157 on Reader Service Card

### Dry Bottle Cooler

**Product:** SPC line of completely self-contained dry bottle coolers, designed for immediate "plug-in" service.

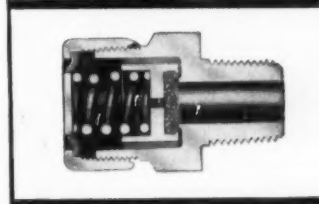
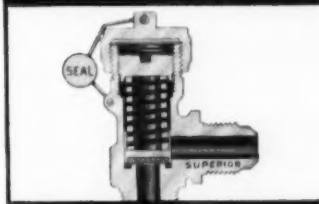


Let a Superior  
relief valve do  
your worrying!

Relief Valves are fast becoming an integral part of all refrigeration systems because of their fool-proof safety feature. No matter what the cause of a pressure over-load, a Superior Relief Valve safely discharges the excess build-up and promptly reseals the system for continued efficient operation.

All Superior Relief Valves comply with the ASA-B9.1-1950 Code, assuring you of the proper discharge capacity for the size of the vessel. Pressure setting and capacity are stamped on the exterior of each Superior valve . . . and they are properly set and sealed at the factory.

For your next installation—whether it is built from blue-prints or is an overhaul—ask your wholesaler to select the correct, Superior Relief Valve for your purpose. It will pay off in added safety!



Ask your wholesaler  
for Superior Relief Valves!

**Superior** valve and fittings co.

Pittsburgh 26, Pa.



Circle No. 68 on Reader Service Card

**Manufacturer:** Nor-Lake, Inc., Hudson, Wis.

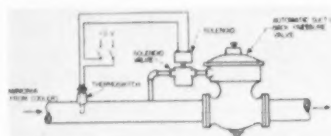
**Features:** Available in 4, 6, and 8' lengths, capacities of 11, 19 and 29 cases, respectively. Height on all three models is 40", depth is 28". Units have heavy duty compressors, baked enamel finish, stainless steel disappearing lids, heavy gauge galvanized interior, adjustable bin dividers and heavy glass fiber insulation. Coolers also feature an oversized defrosting coil, Sirocco type high velocity blowers.

Circle No. 158 on Reader Service Card

#### Safety Thermostat

**Product:** Low temperature safety thermostat.

**Manufacturer:** Fenwal Inc., Ashland, Mass.



**Features:** For application in ammonia-cooled heat exchanger, thermostat prevents freezing and spoilage if regular temperature controller

permits temperature to fall too low. Thermostat placed in line from cooling unit where it senses coolant temperature before it enters heat exchanger. Unit wired in series with solenoid controlling action of ammonia back-pressure valve. When temperature drops dangerously, thermostat contacts close and trip solenoid, forcing valve to open and destroying line suction. Coolant ceases circulation until temperature returns to normal level, when thermostat again de-energizes solenoid, restoring line suction. Usually, thermostat is wired to alarm circuit to warn operator of abnormal condition.

Circle No. 159 on Reader Service Card

### For Recognized Quality - Extra Gallons

## Sell Your Condensing Unit - Filtrine Water Coolers



Mess Hall-Cafeteria Cooler



Photographic-X-ray Cooler



Typical "Packaged" Circulating Chilled Water System

Promote your own condensing unit sales with Filtrine's 20-year-life construction...high capacity... Super Storage... more than 40 years' dependability.

#### COOLERS FOR MESS HALLS - CAFETERIAS

Conform with Fed. Spec. 00-C-566b

#### COOLERS FOR X-RAY & PHOTOGRAPHY

#### PACKAGED CIRCULATING CHILLED WATER SYSTEMS

#### REMOTE COOLERS FOR ALL USES

Sell your condensing unit with Filtrine Stainless Steel or Duco finished cabinets, equipped to suit with top/side shelves, bubblers, glass-fillers. Can be Taste-Master equipped to remove chlorine, rust, sediment from water.



Taste-Master

Sell your condensing unit with Filtrine models repeatedly named by V.A., Signal Corps, Air Force, etc. for X-ray, and photo-labs. Under counter design and floor-mounted models with stainless steel work-table top. Filters (extra) to prevent scratched and pin-holed negatives.

**Sell your condensing unit!** Systems for drinking or processing water—completely packaged with pump, controls, your condensing unit factory installed. Capacities 5—400 g.p.h.; storage 5—150 gals. Filters and Rectifier-Dechlorinators (extra) to insure taste-free, sparkling water.



Remote Model Coolers

Sell your condensing unit with remote models for new and replacement jobs—all applications. Capacities 10—1000 g.p.h.; storage 7—300 gals. Filters, Rectifier-Dechlorinators available for all sizes.



Write for Catalog and Specification Guide

FILTRINE MANUFACTURING COMPANY • BROOKLYN 5 • N. Y.

"Water Coolers and Filters for 40 Years"

Circle No. 69 on Reader Service Card

#### Insulation Material

**Product:** "Firefoil" insulation material suitable for temperatures up to 900 F.

**Manufacturer:** Phillip Carey Mfg. Co., Cincinnati, Ohio.

**Features:** Offers greater water resistance, although not suitable for



outdoor exposure. Composed of fine corrugated asbestos felts, firmly bonded and treated to render it a light weight, strong and rigid material. Combines structural strength and fire resistance with insulating qualities. Can be nailed, screwed or bolted in place, is cut with ordinary carpenter's tools.

Circle No. 160 on Reader Service Card

#### Recirculating Valve

**Product:** Recirculating valve.

**Manufacturer:** Ardee Mfg. Co., Inc., Los Angeles, Cal.

**Features:** Usable for any stream dividing application of gases, air, salt water, oil and mild chemicals to

## Meet Today's Demand for

## FASTER WORK and BETTER INSTALLATIONS with IMPERIAL TOOLS

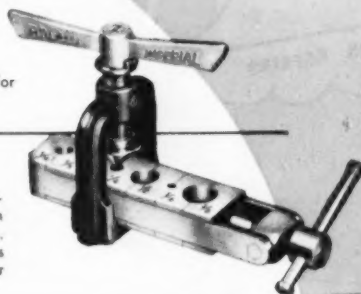
### HI-DUTY® TUBE CUTTER

The outstanding favorite with refrigeration men everywhere. Has free-wheeling ball-bearing action. Roller type with flare cut-off groove. Retractable reamer. **IMPERIAL No. 274-F** . . . for  $\frac{1}{8}$ " to 1" O.D. tubing. Other models for tubing up to 2 $\frac{1}{4}$ " O.D.



### ROL-AIR® FLARING TOOL

Flares — then automatically burnishes. Embodies a lost-motion-mechanism, which causes flaring cone to burnish flare to a highly polished finish, assuring tighter joints. Flares are rolled in the air. **IMPERIAL No. 500-F** flares 6 sizes of tubing  $\frac{3}{16}$ " to 5" O.D. Also many other models.



### LEVER-TYPE TUBE BENDERS

Calibrated open side benders. Make smooth well-formed bends to a short radius—any angle up to 180°. **IMPERIAL No. 364-F**—individual bender required for each size of tubing from  $\frac{3}{16}$ " to  $\frac{3}{4}$ " O.D.



### GEAR-TYPE TUBE BENDERS

Will bend any kind of tubing. This new universal gear-type tube bender makes smooth precision bends even on hard temper copper or heavy steel tubing. Also pipe. Compact, strong, light in weight. Individual benders for  $\frac{3}{8}$ " to 1 $\frac{1}{2}$ " O.D. tubing. **IMPERIAL No. 270-F**.



### SWEDGING TOOL

For making emergency tubing joints without using a fitting. **IMPERIAL No. 195-S** Swedging Kit in metal box includes flaring bar and 4 swedging tools for joining  $\frac{1}{4}$ ",  $\frac{3}{8}$ ",  $\frac{1}{2}$ " and  $\frac{3}{4}$ " O.D.

### SERVICE VALVE KIT FOR HERMETIC UNITS

Handles an increased number of hermetically sealed units. Valve, wheel handle and gauge are kept completely assembled, ready for use. Includes 9 adapters, 6 wrenches, 5 gaskets, plug, set screw wrench, and instruction chart. Sturdy metal case. **IMPERIAL No. 189-F**.



See  
Your Jobber

Ask for  
Bulletin 80

THE IMPERIAL BRASS MFG. CO., 534 S. Racine Ave., Chicago 7, Illinois  
In Canada: 334 Lauder Avenue, Toronto, Ontario

# IMPERIAL

FITTINGS • VALVES • DRIERS • CHARGING LINES  
TOOLS for Cutting, Flaring, Bending, Pinch-Off, Swedging





125 psi. Design incorporates combination of plug valve principles and O-ring sealing. Leakproof conditions obtained. Handle loads and internal wear reduced by use of externally adjustable spring seating control which features multiple ball pressure contact against a hardened wear ring. Tests indicate minimum pressure drop and full pipe orifice flow characteristics in 2" size. Available in cast aluminum, steel or Navy bronze. Bronze and steel valves cadmium plated throughout.

Circle No. 161 on Reader Service Card

#### Upright Dairy Case

**Product:** Model E-SD-35 upright dairy case.

**Manufacturer:** Eskimo Cooler Corp., Chicago, Ill.

**Features:** Capacity of over 600 qts. of milk, unit will accommodate gallon jugs on 6 adjustable extra heavy duty wire shelves. Pull-out 1/3-hp Tecumseh sealed compressor available with 5-year warranty. Non-settling glass fiber and cork insulation, adjustable temperature control. Supports and air directors welded-in. Ceiling mounted high

humidity blower coil is easily accessible. Brass drain located in rear of food storage compartment. High



baked white enamel exterior finish. Case constructed of heavy gage electrically welded steel, has completely sealed inside aluminum liner. Stainless steel trim on doors and cabinet. Case is 71" high, 53" long and 30" deep.

Circle No. 162 on Reader Service Card



**Yes, Sir, too many repeat calls can put you out of business, too!!**

Use "Supco\* 88" for preventive maintenance and cut call backs on all installations by as much as 88%.

Tested by the New York Testing Laboratory . . . "Supco\* 88" was shown to cut down friction by 46.7%! And don't forget it's usually friction that causes breakdowns and means call backs. But that's not all . . . There are other things you should know about "Supco\* 88"—results have shown high standards in B.T.U. efficiency and good performance in current consumption—even on brand new

units—Also its highly penetrating film prevents the formation of carbon sludge deposits on bearing surfaces and will increase the film strength and, oh yes, "Supco\* 88" will also remove any deposits of carbon and sludge if they have already formed, thereby eliminating the necessity of complete overhauls.

There are ten more things about "Supco\* 88" that means efficiency and darn few call backs . . . If any. Try it and be convinced.

Write for more information about this remarkable oil additive.



**SEALED UNIT PARTS CO., INC.**

261 East 161st Street

New York 51, N. Y.

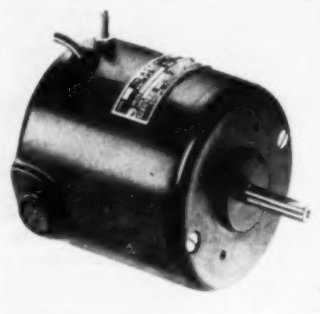
\*Formerly "Addit 88" — Same product, new name

Circle No. 71 on Reader Service Card

#### Blower or Fan Motor

**Product:** Model 710 electric motor for use as a blower or fan motor for refrigeration space cooler or space heater applications.

**Manufacturer:** Electric Motor Corp., Div. of Howard Industries, Inc., Racine, Wis.



**Features:** Series wound motor can be furnished for either ac or dc, in voltage ranges of 6, 12, 24, 32 to 115 volts. Rated from 1/30 to 1/4 hp. Totally enclosed type case will stand water submersion and wide range of temperature changes. Band or flange type mounting. Available with permanently greased sealed sleeve bearings or precision ball bearings.

Circle No. 163 on Reader Service Card

### Vest-Pocket Oiler

**Product:** Fountain pen type oiler.

**Manufacturer:** Clover House, Santa Monica, Cal.

**Features:** Can be carried in overalls, clipped to shirt pocket, oiler guaranteed not to leak. Simply lock knurled knot at head, wipe off tip, put in pocket. For servicemen, me-



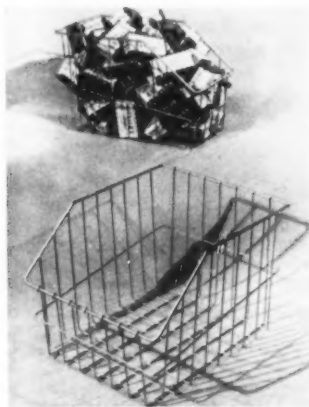
chanics, engineers, etc. Delivers controlled amount, from drop to squirt. For retail trade, packed in display box like ball point pens. Unbreakable "Tenite" plastic case can be imprinted with company or individual's name.

Circle No. 164 on Reader Service Card

### Wire Shelf Baskets

**Product:** "Hirshline" wire shelf baskets for mass displaying of small packaged items on self-service shelving.

**Manufacturer:** S. A. Hirsh Mfg. Co., Skokie, Ill.



**Features:** Cuts shelf stocking costs by creating "jumbo" displays, relieves monotony of continuous stacked displays. Baskets allow shoppers to make selections of high demand goods without upsetting

displays. Available in three sizes to meet requirements for items such as small packaged spices, toothpicks etc., to large packages of soups, pet foods, etc.

Circle No. 165 on Reader Service Card

### Compressor Oiler

**Product:** "Pressure-Speed" compressor oiling device.

**Manufacturer:** Refrigeration Devices Co., Nutley, N. J.

**Features:** New unit is designed to make quicker and easier the adding of oil to all types of refrigeration units. It is said to reduce to minimum the chances of getting air, moisture or other foreign matter into refrigerating system, and to eliminate oil spillage and mess involved in most other methods of putting oil into compressor. Manufacturer claims it is especially good for sealed units, and works equally well with open type units. To operate, bottom of oiler is connected to

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**DOUBLE BALANCED IMPELLER**—Balanced hydraulically to reduce thrust load; balanced mechanically to minimize vibration. This permits closer tolerances with less wear, and closer tolerances mean higher efficiency.

**COMPACT**—Pump and motor built as one unit on a single shaft. Motor is protected from liquid by a mechanical seal and a flinger.

**ADVANCED DESIGN**—Stuffing box is equipped with a heavy-duty, tamper-proof mechanical seal . . . contoured volutes and expert machining result in higher efficiency. The suction piece leads liquid directly to the impeller eye.

**OVERSIZE SHAFT** minimizes deflection and vibration—insures a smooth running impeller—increases life of mechanical seal.

**OVERSIZE BEARINGS** give larger radial and thrust capacity.

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Compact, advance designed Ingersoll-Rand Motorpumps give you . . .

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- HIGHER EFFICIENCY
- EASY INSTALLATION

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Circle No. 73 on Reader Service Card

JUNE, 1953 • COMMERCIAL REFRIGERATION

oil inlet of the compressor, and a higher pressure is introduced in the top by connecting to the high side of the system or to a refrigerant cylinder. Sight glass will indicate when complete charge has emptied from oiler. Capacity of device is one quart. Interruption of compressor operation not required in many instances, manufacturer says. To be distributed through parts wholesalers.

Circle No. 166 on Reader Service Card

#### Self-Contained Water Coolers

**Product:** Line of instantaneous self-contained water coolers.

**Manufacturer:** Heat-X-Changer Co., Brewster, N. Y.

**Features:** Coolers have capacities from 10 to 40 gallons per hour. Eliminates need for storage tanks.



can be used as either remote or on-the-spot installation. Water and refrigerant tubes cast into solid aluminum block for holdover capacity to eliminate short cycling and prevent freeze-up damage. Install by only connecting water lines and plugging in electric cord. Available without glass filler.

Circle No. 167 on Reader Service Card

#### Beverage Coolers

**Product:** "Beverage-Air" cafeteria bottle cooler and storage cabinet.

**Manufacturer:** Punxsutawney Co., Punxsutawney, Pa.

**Features:** Cafeteria bottle cooler has same basic design as standard self-contained bottle coolers except that the entire top section is covered by large stainless steel lids, either hinged or sliding type. Stain-

less steel rail with rounded corners extends around all four sides of cabinet top. Cabinet supplied as standard equipment with large cap catcher; provisions made for second catcher if desired. All models have stainless steel top, sides and ends optional in either enameled or stainless steel. Storage cabinet for kegs is similar to existing models except that no tapping facilities are provided and the top is one flat piece. Adjustable wire shelving for bottled goods can be added as an accessory.

Exterior finish in either all tan enamel or stainless steel top, front and ends with enameled backs.

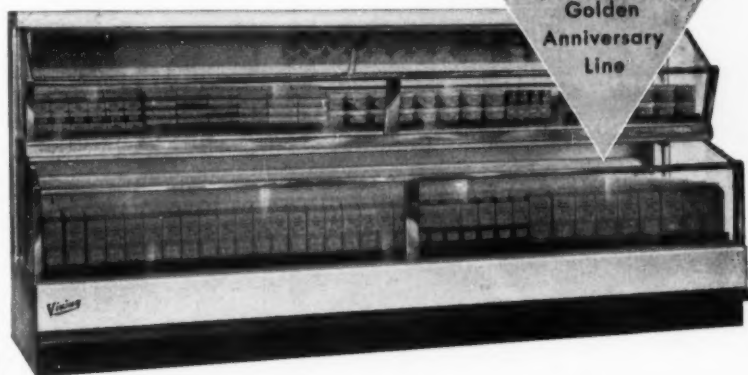
Circle No. 168 on Reader Service Card

#### Centrifugal Pump

**Product:** Model "MU" midget centrifugal pump for continuous or intermittent operation.

**Manufacturer:** Pioneer Pump Div., Detroit Harvester Co., Detroit, Mich.

ANOTHER SENSATIONAL SALES-BOOSTER IN THE



### BRILLIANT NEW DESIGN FOR EXTRA BEAUTY... EXTRA PROFITS

Check all the outstanding features of this new Viking Model #1010... a real best seller!

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**Easily Extensible**—no large partitions... no interference with bottom display.

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Firm

Address

City  Zone  State

Circle No. 74 on Reader Service Card



**Features:** For installations with requirements from 0 to 6 gpm free flow to 6 ft. of head. Pump is direct-connected to motor, can be supplied in variety of metals such as brass, stainless steel and Monel metal. Approximately 5" in dia., 9" overall length, pump weighs about 5 lbs. Mounting base plate is provided on motor housing. Inlet pipe is  $\frac{7}{8}$ " o.d.; outlet pipe is  $\frac{5}{8}$ " o.d. Pumps are factory tested to within 5% of rating before shipment.

Circle No. 169 on Reader Service Card

#### Flux-Solder Mixture

**Product:** "Hy-tin" paste containing powdered solder suspended in flux.

**Manufacturer:** Farrelloy Co., Philadelphia, Pa.

**Features:** Cleans and tins such metals as stainless steel, monel, cast steel, copper, brass, cast iron and others. Paste turns to liquid at soldering temperatures. No sputtering when applied to heated metal, will not dry and cake when exposed to atmosphere. Paste clings to any surface, is easy to work in hori-

zontal or vertical position. Can be applied with steel wool, damp cloth or brush. Tins up to 50 sq.ft. with single can. Packed in 2-lb. cans for shipment.

Circle No. 170 on Reader Service Card

#### Insulation Material

**Product:** "Duramat" Type 252 glass fiber mat reinforced with parallel strands of glass yarn.

**Manufacturer:** Glass Fibers Inc., Toledo, Ohio.

**Features:** Material covered with special waterproof asphaltic materials. Used for vapor barrier in refrigerated rooms, under basement-less houses, covering and weather-sealing for above ground insulated pipes and exposed ducts. Tear and puncture resistant, material is very flexible, bends around curved or irregular surfaces. No special skill and a minimum of equipment is needed to install insulation. Can be cut with sharp linoleum or roofing



knife and sealed with a rapid sealing asphaltic cement. Available in two thicknesses. Type 252 weighs 51.8 lbs. per 108 sq.ft., comes in rolls 36" x 36'. Type 251 weighs 23.5 lbs. per 108 sq.ft., comes in rolls 36" x 72'. Surface is dusted with mica to prevent sticking in the roll.

Circle No. 171 on Reader Service Card

#### Time Recorder

**Product:** Portable running time recorder.

**Manufacturer:** Gotham Instruments, Div. of American Machine & Metals, Inc., Sellersville, Pa.

**Features:** Recorder simultaneously charts temperature of installation and cycling of compressor. Supplies service man with exact

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economical way  
to isolate  
compressor  
vibration

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VIBRA-SORBERS are available in bronze with copper tube ends in sizes from  $\frac{1}{4}$ " through 4" I.D. Also available in steel in sizes from 5" through 12" I.D.

Write for descriptive literature giving full specifications and installation and application data on Flexon VIBRA-SORBERS. There is no obligation.

In refrigerating or air conditioning systems, you can keep the damaging effects of the vibration out of rigid piping with FLEXON VIBRA-SORBERS. These scientifically designed units have the proper amount of flexibility to harmlessly dissipate the vibration. Important, too, particularly in air conditioning systems, is the VIBRA-SORBER'S ability to isolate noise and prevent its transmission throughout a building.

Whenever you have a vibration problem, consider a VIBRA-SORBER first. They are economical, dependable and as easy to install as a section of pipe or tubing.



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Circle No. 75 on Reader Service Card

time ratio between running and off time of the compressor, check of the high and low thermostatic set points, and time necessary to bring temperature down to the required point. Mercury or vapor actuated. Available with 6" chart and variety of bulbs, connections and tubing. Since it can be in operation for 24 hours before chart change is necessary, recorder can be installed in unit to be tested and left while other service calls are made.

Circle No. 172 on Reader Service Card

#### Controlled Bath

**Product:** New constant temperature control bath machine.

**Manufacturer:** Service Metal Fabricators Co., Beverly Hills, Calif.



**Features:** Machine maintains desired temperature within  $\frac{1}{4}$  degree F maximum variation. Introduces use of a refrigeration system and electrical heating system to maintain almost exact temperature. Developed to improve means of measuring .001 tolerances in cylindrical aluminum parts. With two machines, one at the factory and one at the point of acceptance, micrometering of parts can be done at exactly the same temperature. When close tolerances are required, these machines one claimed to save dollars in production time and end part rejection headaches.

Circle No. 173 on Reader Service Card

#### Under Counter Water Cooler

**Product:** Model U100 SC self-contained under-the-counter water cooler for installations of cold water stations at one or more convenient points along counter.

**Manufacturer:** Lern Inc., Chicago, Ill.

**Features:** Unit is self-contained and ready for use on arrival. Plug-in to 110-volt a. c. outlet is all that's needed. Provides 10 gal. or 150 glasses of 42 F water per hour, using only 1/6-hp hermetically sealed unit. Self-draining surface and space for empty water glasses. Stainless steel construction with removable front panel for quick access to adjustable temperature control and refrigeration unit. Fully insulated with copper lined evaporator. Overall di-

mensions are 31 $\frac{1}{2}$ " high, 26" wide and 14" deep. Height can be reduced to 29" if desired or increased to 35 $\frac{1}{4}$ " by means of optional adjustable legs.

Circle No. 174 on Reader Service Card

#### Electric Hammer

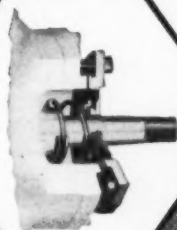
**Product:** "Super Slugger" electric hammer with new type motion conversion.

**Distributor:** Tempo Products Co., Cleveland, Ohio.

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UNIT No.



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Easy to Install .....  
Efficient in Operation .....  
Simple in Construction ....  
Economical .....

Available in a complete range of sizes—including

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**BAKER • BRUNNER • CARRIER • COLDSPOT • COPELAND • CURTIS • FRIGIDAIRE • GENERAL ELECTRIC • KELVINATOR • NORGE • PAR • WESTINGHOUSE • YORK, and many others**

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Circle No. 76 on Reader Service Card

**Manufacturer:** Noble & Stanton, Inc., Bedford, Ohio.

**Features:** Operates on "Cushion-Snap" impact motion which eliminates kick, direct vibration and operator fatigue. Hammer weighs only 7½ pounds, delivers 3,000 positive blows per minute. Complete line of tools available for applications in the electrical, plumbing, sheet metal, masonry and general industrial fields. Heavy duty metal carrying case for hammer and cord also available.

Circle No. 175 on Reader Service Card

#### Upright Freezers

**Product:** Three sizes of upright freezers.

**Manufacturer:** Loudon Mfg. & Sales, Inc., Minneapolis.

**Features:** Freezers offered in 16½, 22 and 28-cu. ft. sizes. Model illustrated is the 22-ft unit. Outside finish is baked white "Dulux" on 20-gauge paint-grip steel. Interior finish in aluminum hammertone. Three freezer plate shelves; coiling in top and bottom; 4" of insulation except on bottom where 5" are used. Powered by Tecumseh units with

five-year warranty. Inner doors can be furnished at additional cost. Built in lock handle. All steel construction in and out.

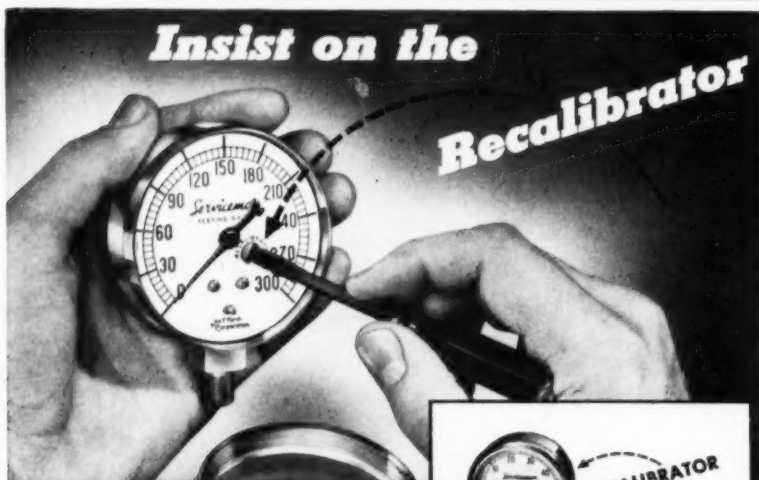
Circle No. 176 on Reader Service Card

#### Electronic Control

**Product:** Electronic liquid level control applicable for low-side refrigerant level control in refrigeration systems.

**Manufacturer:** Thermo Instruments, Inc., Belmont, Cal.

**Features:** Based on capacitive action of liquid surrounding a porcelain-enamel-covered electrode, unit also provides adjustment of



#### - Vital to Every Testing Instrument

Using a testing gauge that doesn't have a convenient means of keeping it accurate is like using a cutting tool without a handy means of keeping it sharp.

Like good cutting tools Marsh Gauges are "sharper" to begin with, but if you ever knock them out of adjustment you can "sharpen" them up in flash with the twist of a screwdriver.

That's why every true craftsman prefers Marsh testing instruments. When the pointer fails to return to zero just turn the Recalibrator screw until accuracy is restored. And remember: the Recalibrator is the one sound way to "sharpen" a gauge because it gets right down to the source of the error... corrects the relation of the bourdon tube to the movement.

Marsh testing gauges and thermometers are the only testing instruments that have the "Recalibrator". Use these tools that are right and can be kept right.

See your jobber

WRITE FOR BULLETINS

MARSH INSTRUMENT CO.

Sales Affiliate of Jas. P. Marsh Corporation  
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# MARSH

Refrigeration Instruments

Circle No. 77 on Reader Service Card



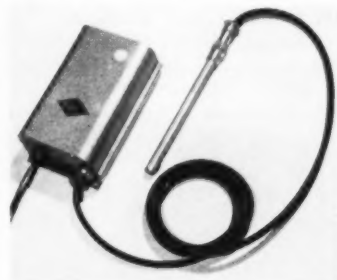
Easily removed knurled rings on the new, handsome Marsh testing gauge set gives quick access to the "Recalibrator." Here is the team of thorabred for the serviceman who wants the best. (Dial size, 2½").



The "Recalibrator" is the finishing touch to this finer testing gauge with three extra color differentiated scales for sulphur dioxide, methyl chloride, and Freon. (Size, 2½").



The "Serviceman" thermometer also has the "Recalibrator." Note the 4-scale version of the Serviceman with color-differentiated pressure equivalents.



liquid level and cut-in, cut-out differential over wide limits. Consists of probe mounted directly at location of controlled liquid; a connecting cable up to 1000' long. Two main controls for liquid level and differential are screwdriver adjusted, fine control on liquid level operated by a panel-front knob. Standard models operate from 115-volt, 60 cps; special units available for 230-volt or 25 cps operation. Snap-action relay rated for 10-amp at 115 and 230 volts. Indicator light indicates relay operation, brightest when relay is open, half brilliance when relay is closed.

Circle No. 177 on Reader Service Card

#### Sanitizing Unit

**Product:** No. 1566 stainless steel sanitizing unit for establishments with capacities of 20 or less.

**Manufacturer:** Bastian-Blessing Co., Chicago, Ill.

**Features:** Sanitary garbage disposal and dishwashing unit available in 6' length. Complete with electric automatic dishwasher, tray shelves, divided corrugated drain-board and clean-up section. Gar-

bage disposal includes sink with Moen faucet, below which a garbage pulverator is installed with water supply that turns on automatically and washes pulverated food into sewer. Garbage chute with sleeve fits into waste can below.

Circle No. 178 on Reader Service Card

#### Degreaser

**Product:** Model DG-1 electric vapor degreaser.

**Manufacturer:** J. D. Wallace & Co., Chicago, Ill.

**Features:** Portable, electrically operated, insulated, and thermostatically controlled. Either 110 or 220 volt heating element, heat-up time less than 20 minutes, requires only 2½ gal. solvent. Caster-mounted



base, plug-in feature permits use at different work stations. Thermostatic control maintains constant vapor level and prevents overheating. Flusher pump easily attached, as are lip-vent and 21" diameter work baskets required on some applications.

Circle No. 179 on Reader Service Card

#### SCHOOLS ON SERVICING

Advanced training schools for Servel air conditioning distributor personnel have recently been conducted by a factory team consisting of Robert E. Davis, air conditioning service manager; G. Owen Kuhn, assistant service manager; and Joseph L. Kaposta, service training representative. Schools were held during March in Atlanta, Jackson, Miss., and Houston, Tex., and during April in Oklahoma City, Los Angeles, Boston, Washington, D. C., Omaha, and Chicago.

#### BUSH UNITS HEAT, COOL NEW HARTFORD STATLER

The Bush Mfg. Co. has announced receipt of a contract to provide 491 air conditioning units for the new Hotel Statler being erected in Hartford.

The units to be supplied are remote air conditioning units featuring individual room control, and are a recent addition to the Bush line. They utilize hot or chilled water and provide for year 'round air conditioning: heating in winter, cooling in summer, and individually

controlled circulation of filtered air for "between season" comfort.

The contract was awarded to Bush by Alvord & Swift, of New York city, mechanical contractor for the new Statler Hotel.

#### NAMED AIRTEMP DEALER

Hager and Cove Lumber Co. recently was granted a Chrysler Airtemp franchise to merchandise Chrysler Airtemp air conditioners in the Lansing, Mich., area.

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A. "PERMAGRAN" GRANULE

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**W**HETHER you're a beginner or a seasoned refrigeration engineer, you'll enjoy reading the informal autobiography of A. "Permagan" Granule. All the facts are there, but they are easy to take through the use of light story style and cartoon illustrations that clarify the story. Get free copies for yourself and your men at your wholesaler—or by writing.

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PERMAGRAN is available exclusively in DC  
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Our 28th Year

**DRIERS — Moisture Control Units**  
**Moisture Indicators — Filters — Strainers**

Circle No. 78 on Reader Service Card



## BATTLE OF THE BT'S . . .

Continued from page 76

directly at the air conditioning unit sitting in approximately the middle of the room. We'll let the conditioner run full blast, he reasoned, and control the room temperature with the unit heater.

At the time he made this suggestion, daytime temperature was running at 105 F., and humidity was up around 90%. A fine time to talk a customer into buying a unit

heater! But Peal had an open mind and was willing to try anything that might solve his problem.

And solve the problem it did. In four years of operation, reports Peal, this system has failed only once.

The unit heater is thermostatically controlled, and is set on 78 F. The only time it failed was once when someone (the maintenance crew got the blame) tampered with the thermostat and set it back to 60 F. Now this control is taped to prevent maladjustment.

"With this system," Peal avers, "we no longer have any trouble with our humidity problem. All day and all night, every day of the year, the unit heater and the room cooler battle it out."

"We keep the humidity right at 50%. That's low enough for the chips and high enough to maintain comfortable working conditions in the bagging room. Since this system has been in operation, our turnover of employees has dropped to zero, and that's a big factor in itself."

## LEHIGH CONFERENCE . . .

Continued from page 76

the unburned gas vapors to form considerable moisture throughout the home.

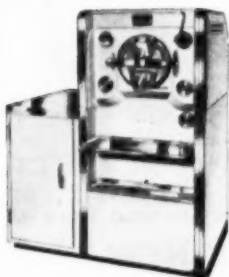
In other cases of severe residential humidity problems, he recounted, the cause has been found to be evaporation from drying laundry, water-soaked fabric shower curtains, or moisture seeping up from damp crawl spaces beneath baseless homes. Undesirable moisture in the home, he pointed out, also can come from a gas range in the kitchen. One of these appliances can put as much as 11 gallons of water into the home for each thousand cubic feet of gas burned, he declared.

Nessell wound up his talk by stating that while many causes of excess moisture in the air conditioned home can be eliminated, the industry must recognize the fact that women are still going to wash diapers and hang them in the basement, they're going to continue to mop floors and cook boiled dinners, and that as a result this matter of high humidity in the modern small home with so much confined space is going to continue to be a problem which the air conditioning industry must face.

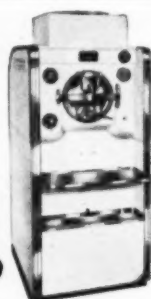
He concluded by venturing the opinion that in order to achieve truly satisfactory conditions in the small air conditioned home it might be necessary in some degree for people to change their way of living and to recognize the limitations which air conditioning will impose upon them.

The Saturday morning session continued with a panel discussion in which W. A. Grant of Carrier Corp.,

# How to make big money!



Mills All-Purpose Pump Model with refrigerated Mix Cabinet. Cabinet holds two 10 gallon mix containers. Mix fed automatically to freezer barrel. Makes all continuous custards and batch ice creams. Capacity up to 30 gallons of product per hour.



Mills Hopper Model (pumpless) makes both continuous soft frozen products and regular batch ice cream. Refrigerated Hopper holds 4 gallons of mix. Capacity up to 30 gallons of product per hour.



Mills Masterpiece Twin-Head Freezer for producing wonderful continuous flavored custards. Each barrel operates independently for perfect flavored product production. Capacity 7 to 10 gallons of product per hour. Available in floor and counter models.

● Mills Freezers are specifically tailored to fit your selling needs. Three models cover the entire field! The Mills Line is easy to stock, easy on the pocketbook, easy to install and **EASY TO SELL**. Your discounts assure you the biggest, sweetest profits you've ever seen, — yet Mills selling prices give you a tremendous competitive advantage over every freezer on the market!

And Mills Freezers provide your customers with the means to make big profits, and pay for their equipment quickly. No other freezer offers such clean, modern beauty, simplicity of operation, durability, and such amazing high quality at so low a price.

Mills Freezers can point to 20 years of uninterrupted successful manufacture and sales to recommend it! Now with a booming soft products multi-flavored trend to back you, and the biggest Mills promotion in years including *The Saturday Evening Post* and a long list of trade publication advertising, you can **MAKE BIG MONEY!** Write Mills Freezer Division **NOW!** Get the full details of choice territories **FIRST!**

# be a MILLS distributor!

## MILLS INDUSTRIES, Inc.

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CHICAGO 39, ILLINOIS

Circle No. 79 on Reader Service Card

W. G. Senft of American Radiator & Standard Sanitary Corp., and G. R. Wachter of York Corp. participated. Subjects covered in this panel discussion were the physiological considerations of air conditioning, selection of the right heating and cooling equipment, temperature control, summer humidity, and initial cost versus operating cost. Purpose of this discussion was to highlight the areas where further research was needed.

Grant, speaking on the physiological considerations of air conditioning, pointed out that the public wants air conditioning to make themselves more comfortable in order that they can get a good night's sleep so that they can get up in the morning and do more work and make more money to pay for more air conditioning.

The big problem in air conditioning, he reminded his listeners, is to keep people from being too warm and also keep them from being too cool. The ideal figure upon which air conditioning is being based today, he declared is 75F with 25%

**D**ON'T throw away your OPS records, even if the price control regulations affecting one or more of your operations have been revoked under the new "decontrol" movement. After the decontrol action is effective, it is no longer necessary to keep these records, the Office of Price Stabilization reminds that all records of transactions while OPS regulations were in effect must be preserved for specified periods of time. The maximum period is two years after expiration of the Defense Production Act.

OPS points out that preservation of these records is required by law, and is necessary for enforcement purposes.

humidity in the winter, and 76F with 50% humidity in the summer.

These figures are the optimum conditions, Grant pointed out, and while they will not satisfy all persons, findings to date show that they will keep 80% of the persons perfectly happy with their air conditioning.

For individual considerations, he said, these conditions can be varied so that a temperature range from 73 to 79 F in summer or 72 to 78 F in winter might be considered a comfortable average temperature range. These figures have been used in

commercial buildings and been found to be quite favorable.

The industry still needs to get more information, Grant declared, on the question of to just what extent air conditioning will control pollens, and as to how much air conditioning can do in the way of controlling odors and smoke. The physiological effect of noise upon a person is another field which must be explored. We must remember, he continued, that one-half to three-quarters of a person's life is spent

in the home, and it is the industry's responsibility to make the home as comfortable as possible.

Speaking next on this forum, Senft of American Radiator & Standard Sanitary Co., recalled the many haphazard methods of estimating heating requirements which were employed in the early days of the heating business.

Today the selection of heating equipment should be done on an accurate heat loss calculation basis, he declared. Much has been learned,



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**E-Z-SEE LIQUID-FLO-INDICATORS** with the exclusive sensitive flap, responsive to changes in flow. E-Z to SEE thru, these indicators now permit the serviceman to analyze accurately functions of the expansion valve by action or position of the flap. Positively leakproof—perfectly safe.

**SUPER-FLO FILTER-DRIERS** for both original equipment and replacement. Check SUPER-FLO's amazing low price against ordinary driers which do not have massive fiberglass depth filters, molded drying elements and spun-ene copper shells. Perfectly free flow. Remco also manufactures famous Cross-Flo and Standard Duty driers.

**FROST-TITE FLARE NUTS** positively eliminate creeping, cracking or splitting of nuts in refrigeration systems by providing relief for expanding ice through patented forged frost-relief slots. Yet they cost no more than unrelieved flare nuts.

Available to the trade through wholesalers everywhere.

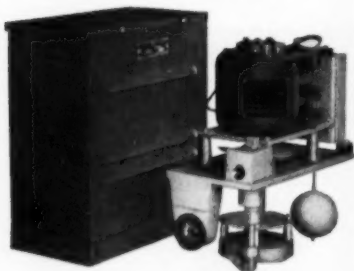


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A large selection of heavy duty pumps for continuous duty under severe operating conditions.



Eastern condensate units are available for normal or high temperature operation. Completely automatic and foolproof.



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**Eastern INDUSTRIES, INC.**

296 Elm St., New Haven, Conn.

he said, about the most satisfactory type of heating, but the industry still must find ways to make slab floor installations that will keep the home owner comfortable for twelve months of the year, a great deal yet must be learned on duct friction and resistance set up by various fittings.

Speaking on temperature control, Senft pointed out the problems involved in the location of the thermostat, and stressed the fact that the location of the thermostat for air conditioning is not necessarily the same as it would be for heating. He also pointed out that a duct system must be found which will be most satisfactory for both heating and cooling, and expressed the fear that if the two cannot be made compatible, the progress of the industry will undoubtedly be retarded for some time.

Concluding the panel discussion, Wachter of York Corp. pointed out that certain persons buy air conditioning on the basis of how big a unit they can have put in their home in order that they may impress their friends with the fact that they are able to drop their home to a 65 de-

gree temperature. He pointed out, however, that when cooling equipment is reduced in size the customer benefits not only by the reduced cost of the factory-built package but also by the reduced cost of installation and service, including wiring, piping, and water conservation devices.

Discussing initial cost versus operating cost, Wachter pointed out that experience to date has shown that operating cost is of no major concern to the home owner, in that by and large the people who have bought air conditioning can well afford to pay the price of operation.

### Undersizing Won't Pay

With reference to those who might not be in as favorable a position financially to pay the cost of air conditioning, he expressed the opinion that they can run their air conditioning unit in accordance with their income and will not insist on having as much cooling as those who can better afford to pay the utility bills.

Wachter then went on to give specific case histories of various sizes of equipment in operation which indicated that although a smaller unit might have to run more continually in order to keep the home cooled, the expense involved in this additional operation could be paid for eight years before it would equal the difference in installed cost between this small unit and the next larger size.

Summing up the two days of discussion, John R. Hertzler, vice president and general sales manager of York Corp., declared that one of the most important things which this Conference had accomplished was to impress all segments of the industry with the fact that despite the great progress which air conditioning has made in the last few years, the field was still wide open for future research and development.

### FARR APPOINTS 3

Three new representatives are announced by Farr Co. of Los Angeles, manufacturers of Far-Air filters and air filtration equipment. They are Johnson Filter Sales Co., Cleveland, Pittsburgh Air Filter Service Co., Pittsburgh, and Air Filter Sales & Service-Detroit, Detroit.

## For a Faster Sweating Job



Clean  
Fittings  
with  
**SCHAEFER**  
Brushes

(Look for this trademark)

**SCHAEFER BRUSHES**  
—MILWAUKEE—

Made of Stainless Steel Wire, secured in 4-ply wire handle with wood grip. Strong, stiff, wear-resisting, corrosion-proof. 12 Sizes, from 1/4" to 2 1/4" O.D. and 1/4" to 2" I.D. Order a complete set from your Refrigeration Equipment Wholesaler.

**SCHAEFER BRUSH MFG. CO.**  
117 W. Walker St., Milwaukee 4, Wis.

## ABOUT PEOPLE . . .

Continued from page 38

Harry Shreiner & Co. has been appointed area representative for Northern Indiana Brass Co. The new firm, under the direction of **Harry Shreiner** and **Bill Wright** will cover the territories of Ohio,



western Pennsylvania, eastern Kentucky, Wheeling and Parkersburg, West Virginia. Shreiner has been in the refrigeration, heating and plumbing fields for 17 years. Wright has experience in business organization and customer service. Headquarters will be in Columbus, Ohio.

Taco Heaters, Inc. has announced the appointment of **Robert**



R. T. Angevine



H. E. Lucas



W. J. Sliney

**T. Angevine, Howard E. Lucas and William J. Sliney** as managers in its sales force. Angevine has been named assistant sales manager for heating manu-

facturers package equipment; Lucas is new regional sales manager for the states of Maryland, North Carolina, South

Carolina, Virginia and Washington, D.C.; and Sliney has been appointed regional sales manager for southern New Jersey, eastern Pennsylvania and Delaware.

Two appointments have been announced by Lau Blower Co. **Edward V. Sullivan** has been promoted to sales manager for the fan division and **Thomas H. Martin** has been named manager of advertising and sales promotion.

**William H. Chase** has been appointed advertising and sales promotion manager of the Fedders-Quigan Corp. He succeeds **Robert E. Cassatt**, who recently was promoted to sales manager of the Refrigeration Appliances Div.

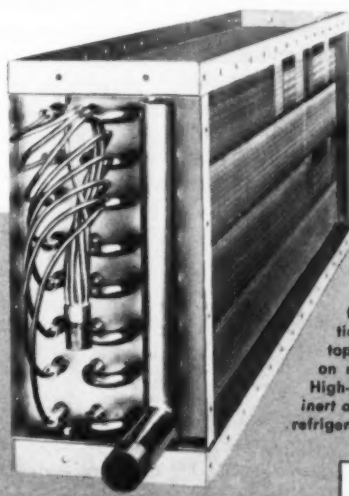


He formerly was with Bendix Home Appliances Div., Avco Mfg. Corp.

Throw out the fans!  
I want...

**Tenney**

Standard 4-Row Air-Conditioning Coils, AC4 Series



5 capacities in 11 popular sizes with F-12, F-22 refrigerants.

for stores, homes, and offices...where built-up systems are used with duct distribution.

1.  $\frac{3}{8}$ " O. D. copper tubing. 2. "Facetized Fins" of faceted-surface aluminum for greater heat transfer and dehumidification efficiency. 3. Heavy-gauge steel end, top, and bottom plates (aluminum available on request). 4. All copper suction headers. 5. High-temperature hard solder tube joints with inert atmosphere inside tubes for clean scale-free refrigerant passes.

Model No.	Nom. Tons	Finned Lgth.	Hgt.	Dimensions			Face Area	Recomm. CFM
				A	B	C		
ACA-2A	2	29"	7 $\frac{1}{2}$ "	2 $\frac{1}{2}$ "	1 $\frac{1}{4}$ "	2"	1.51	750
ACA-2B	2	30"	11 $\frac{1}{4}$ "	2 $\frac{1}{2}$ "	1 $\frac{1}{4}$ "	1 $\frac{1}{2}$ "	1.54	750
ACA-3A	3	29"	11 $\frac{1}{4}$ "	2 $\frac{1}{2}$ "	1 $\frac{1}{4}$ "	2"	2.27	1125
ACA-3B	3	22"	15"	2 $\frac{1}{2}$ "	1"	$\frac{1}{2}$ "	2.29	1125
ACA-5A	5	36"	15"	4"	1"	1 $\frac{1}{2}$ "	3.75	1875

Complete range of models and sizes								
ACA-7 $\frac{1}{2}$ B	7 $\frac{1}{2}$	43"	18 $\frac{1}{2}$ "	4 $\frac{1}{2}$ "	$\frac{3}{4}$ "	1"	5.60	2800
ACA-7 $\frac{1}{2}$ C	7 $\frac{1}{2}$	36"	22 $\frac{1}{2}$ "	4 $\frac{1}{2}$ "	$\frac{3}{4}$ "	1 $\frac{1}{2}$ "	5.83	2800
ACA-10A	10	58"	18 $\frac{1}{2}$ "	4 $\frac{1}{2}$ "	$\frac{3}{4}$ "	$\frac{1}{2}$ "	7.56	3750
ACA-10B	10	48"	22 $\frac{1}{2}$ "	4 $\frac{1}{2}$ "	$\frac{3}{4}$ "	1 $\frac{1}{2}$ "	7.50	3750

It's NEW!—the ideal line of *standardized* direct-expansion coils. It's the one line that can be recommended, sold and installed with *complete confidence*, backed up by the sound engineering and quality construction that guarantee the best—when you specify **TENNEY**!



**Tenney**  
ENGINEERING, INCORPORATED

Manufacturers of Automatic Temperature, Humidity, and Pressure Control Equipment

Circle No. 83 on Reader Service Card

No matter what your refrigeration problem... there's a Tenney unit to solve it. Tell us yours and we'll show you how. Tenney Engineering, Inc., Dept. F, 26 Ave. B, Newark, N. J.



## N. J. Contractor Stages Seminar For Architects, Builders, Realtors

Sixty leading architects, builders and realtors attended a seminar on air conditioning sponsored recently by Comfortair Co. of Hackensack, N.J., and Typhoon Air Conditioning Co. at the Suburban Restaurant in Paramus, N.J.

Seymour H. Jarcho, a Typhoon engineer, discussed the principles of air conditioning and described the functions of all air conditioning systems. Jarcho then explained the workings of the various types of equipment offered by Typhoon and cited approximate cost figures for the installation of the units in homes being built in North Jersey.

Frank Hudik, president of Comfortair Co., warned the builders and architects that too much emphasis was being placed on costs of air conditioning and not enough attention was being paid to proper engineering. He urged the builders to be careful when letting contracts for installing air conditioning, advising that a single responsibility was desirable, with one firm charged with the complete installation of the heating and cooling plant, the duct work, and the diffusers.

### Each Installation Differs

Air conditioning will be as important to the home of the future as central heating is today, Hudik declared. He asked the architects to design homes for air conditioning so that the proper perspective would be achieved since each installation represents an individual problem.

Hudik also dwelt on costs of installations for typical homes in the area and then presented three types of duct systems evolved by his engineers to serve homes that are presently heated by warm air systems.

Laurence R. Moon, Englewood, N. J., architect who designed the first air conditioned colony of homes in North Jersey, described some of the structural modifications necessary when converting a home designed for warm air heating to year-round air conditioning. Moon said that he

favored the wall diffuser type of distribution units since they required less cutting of the structural members of the house and thus the strength of the home was not effected.

Lewis Epstein, president of the North Jersey Home Builders Association, recognized air conditioning as a potent sales force in the home market. He urged caution, however, declaring that haste and improper installation could result in the feature being placed in an unfavorable light in the eyes of the public.

### Sales Stimulus Needed

Stephen Dudiak, immediate past president of the Home Builders' group, also called for the employment of competent engineers in installing air conditioning. He declared that air conditioning seemed to fill the bill for the something extra that would be needed to stimulate home sales in the spring and urged that the manufacturers concentrate on producing a unit especially for homes in the \$13,000 price class.

B. J. Bergton, Teaneck realtor and exclusive agent for the first air conditioned colony of homes in North Jersey, reported that the installation of air conditioning had resulted in a sell-out of the 147 homes in the \$20,000 to \$30,000 price class. The realtor said that the public is looking for "extras" in homes now more than ever and that air conditioning was one of the best "extras" from a sales viewpoint.

The final speaker at the seminar, Arthur Pulis Jr., president of Franklin Mortgage & Title Insurance Co. of Newark, dwelt on the effect of air conditioning on application for mortgages. Pulis cited figures to show the additional cost of financing the air conditioning installation as part of the mortgage and declared that an air conditioned home, while not qualifying for special mortgage consideration, would be regarded as an excellent investment since it would represent the optimum in modern construction.

## FLINT CONTRACTORS NEED ELECTRICAL LICENSE

Refrigeration contractors installing and servicing commercial and air conditioning equipment in Flint, Mich., are now required by the city to carry "classified electrical contractors' licenses" as the result of a recently passed ordinance.

In addition, installation and service men working for a licensed contractor must have a "classified electrical journeyman's license".

The license gives the contractor and his employees official permission to install all the wiring necessary for refrigeration or air conditioning equipment from the branch circuit panel to and including the equipment. Cost of the "classified" license for contractors is \$35 a year, while journeymen pay \$2. These are the same fees charged full-time electrical contractor firms.

Every job involving electrical installation or changes must be inspected by the city, for which a charge of 50 cents is made. No contractor licensing or inspection is required of individuals installing or servicing domestic refrigerators, window air conditioners, or similar

"portable appliances which can be plugged into a receptacle."

According to R. S. King, chief electrical inspector, the new regula-

**T**HE RACCA national association has joined with its Detroit local in an effort to keep automobile manufacturers out of the air conditioning field.

In recent correspondence between the Detroit local and the national association office, President George T. Howe has assured the Detroit group of the backing of the national RACCA organization "to help Detroit preserve its refrigeration and air conditioning code."

"The National Office recognizes the danger that may be involved in setting a precedent in the Detroit area and it may well serve as a pattern for the entire nation," RACCA said.

It is the intention of the national office to have a representative sit in at the next meeting between the National Automobile Manufacturers Association and the representatives of the Detroit RACCA group.

tion was necessary because a few individuals were following unsafe wiring practices.

King said that recently a serious fire in one of the city's hotels nearly

resulted from a refrigeration man's "bridging out" the fuse that was intended to protect the motor on a refrigeration unit in the basement.

The motor stalled and because the fuse had been bridged out the motor began to smoulder, and the hotel filled with smoke. Prompt action by firemen averted an actual outbreak of fire.

In other instances, King said, actual fires have resulted because the fuse for a refrigeration unit had been bridged out. He also said that there had been several instances where refrigeration men, when changing motors, would leave covers off the box or on new installations not bring the flexible conduit all the way to the box.

Contractors and journeymen must pass a written test to qualify for the "classified" license.

## WORTHINGTON TO MOVE

Worthington Corp. has become the first tenant to lease space in a new 26-story aluminum faced building under construction at 99 Park Ave., New York City.



## UNIT AIR CONDITIONERS

Are now available in three sizes—3, 5 and 7½ horsepower. These superior Units have extra-large refrigerating surfaces: they deliver more cooling effect per dollar, and we can prove it! Built into them are 70 years' experience.

Get the full facts on Frick Units before you buy: write for Bulletin 522. If you need

a still larger air conditioning system, ask for Bulletin 504. Branches and Distributors in principal cities, the world over.



Also Builders of Power Farming and Sawmill Machinery

# CAL. CONTRACTORS URGE INDUSTRIAL USER PRICE

Many members of the Refrigeration and Air Conditioning Contractors Association of Southern California, reports the group's monthly bulletin, feel that now price controls are off, wholesalers, manufacturers' agents, and manufacturers should establish an industrial user price for refrigeration and air conditioning equipment which would be about 20 to 25% above the price at which this equipment is sold to contractors.

This industrial user price, as the California group sees it, would be for industrial and commercial accounts that maintain their own service engineers and installation departments. The consumer price when sub-letting the labor would be, of course, higher than the industrial user price.

If this suggestion were put into effect it would mean that there would be a graduated scale of prices, as follows: manufacturers' price (to be used only when the equipment becomes an integral part of the manufactured article); whole-

salers', jobbers', or distributors' price; price to contractors for resale; industrial user price; and consumer price.

The association's organ states that this appears to be in accordance with the Federal Trade Commission principles relating to functional discounts.

## CHICAGO RACCA STAGES SIXTH GOLF OUTING

The 6th annual golf tournament and dinner of the Refrigeration and Air Conditioning Contractors Association of Chicago will take place on THURSDAY, JUNE 11, at the Itasca Country Club, according to Frank L. Haas, chairman of the committee on arrangements.

Last year 200 men attended this largest and foremost golf outing in the refrigeration and air conditioning industry in the Chicago area, and each went home with at least two gifts. This year's event is being planned on an even larger scale, with greater attendance, and thousands of dollars in prizes to be awarded.

## CLEVELAND CONTRACTORS ENTERTAINED IN CHICAGO

An innovation introduced by the Refrigeration and Air Conditioning Contractors Association of Chicago is the entertainment of the members of various local organizations of the National Association at separate parties planned for each group. This will give members an opportunity to meet informally with contractors from other sections of the country to exchange industry news, and discuss business problems of mutual interest.

The first party was for the local association from Cleveland at the University Club on Friday, May 15.

Other local groups will be entertained at frequent intervals in Chicago, and the Chicago group has indicated its willingness to attend meetings of other local associations.

## CONVENTION PLANS SET

Plans already have been made for the 8th annual convention of Refrigeration & Air Conditioning Contractors Association to be held



**They're ALL hot prospects  
for the "SWEDEN METHOD"**  
**Cash in NOW...sell the profit line**

## SWEDEN SPEED FREEZERS

**Talk Profits...** and your customers will sit up and take notice! We know, because we're talking "down-to-the-penny" margins in a nationwide promotion on the "SWEDEN METHOD" of automatic fountain operation. This profit story has excited fountain operators throughout the nation. It's a story of 50% reduced food cost... of 50% reduced labor costs. It means faster service, greater production per day, less employee fatigue—plus 50% increased gross profits. Cash in on this active operator interest... starting now! Sell the complete, amazing profit potential of automatic fountain operation. Your operator-customers know the full story from Sweden's nationwide advertising to the trade. They are interested... they want profits... get out and show them how to make more money... with SWEDEN SPEED FREEZERS!



**THE SWEDEN LINE  
HAS EVERYTHING!**

**VARIETY**—Models for every fountain requirement... in volume, in budget, in type of operation.

**DESIGN**—modern, sparkling beauty that stands out in any installation.

**ENGINEERING**—resulting from 20 years of leadership. Trouble-free use for your customers... and service-free sales for you.

For information on how you can cash in on the "Sweden Method" write today to:

**SWEDEN FREEZER MANUFACTURING CO.**  
DEPT. R-3 SEATTLE 99, WASHINGTON

Circle No. 85 on Reader Service Card

at Cleveland, Ohio, simultaneously with the 8th All-Industry Refrigeration & Air Conditioning Exposition. The Carter hotel has been reserved as RACCA headquarters for the period of Nov. 8 through 11.

### GARTNER HEADS TWIN CITY CONTRACTORS GROUP

George Gartner, Gartner Refrig. & Mfgs., Inc., has been elected president of the Refrigeration Contractors Association of the Twin Cities (Minneapolis and St. Paul, Minn.).

Other new officers of this organization are: vice president, J. C. Ehlers, Commercial Refrig. & Appliance Co.; secretary, Bert Holmsten, Holmsten Refrigeration, Inc.; treasurer, Neil Herman, Allied Store Equipment Co.; sergeant-at-arms, Sol Grouse, Refrigeration Equipment Co.; directors—A. M. Palen, Palen Refrigeration; Joe Parupsky, Automatic Refrigeration, Inc.; Lynn Bradison, Mullin Bros. & Co.; Warren Palm, Palm Bros., Inc.

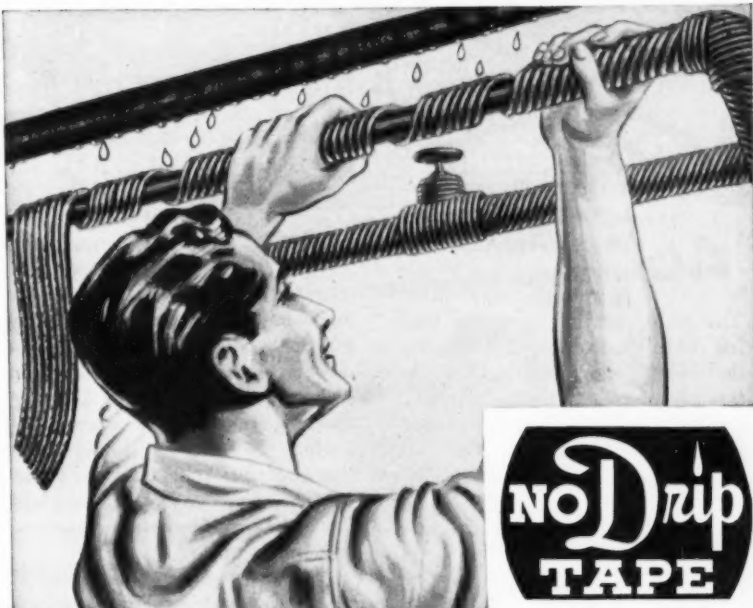
### ATLANTA CARRIER BRANCH TO OCCUPY OWN BUILDING

Carrier Corp. will have exclusive use of a thoroughly modern office building to be opened about Oct. 1 in Atlanta. The two-story building will be located at 2005 Peachtree Rd., about 4 miles northeast of downtown Atlanta.

Essentially window-less, the completely air conditioned structure will be provided with the most modern lighting and acoustical features. Containing approximately 22,000 sq.ft. of floor space, the building will house about 90 people, including sales, engineering, construction and service personnel. Provision for parking facilities in the rear of the building have been made.

Carrier executives scheduled to occupy the new structure include Marion Darby, district manager, direct sales division; George T. Long, regional manager, dealer sales division; and George C. Robertson, district manager, dealer sales division.

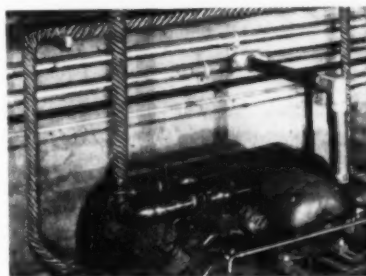
**BUY FROM YOUR  
REFRIGERATION WHOLESALE**



## STOPS CONDENSATION DRIP

Yes, indeed, it takes care of the vexatious drip problem connected with cold water pipe installations. NoDrip Tape is pliable, cork-filled, 2" wide. When wound around pipes, it forms a tight fitting, moisture-proof jacket. Holds temperatures steadier, eliminates icing and frosting, prevents rusting, keeps pipes and floors dry.

*Just the thing for pipes and suction lines running from refrigerating machines to condensers.*



*Use on refrigerant lines in air conditioning systems, walk-in freezers, deep freezers and on basement cold water pipes.*

### EASY TO APPLY

You don't need tools, brads or experience to apply NoDrip Tape. Just wrap it around pipes and press into place with your hands. Anybody can do it. Try a roll on a short section of pipe and compare with uncovered portion.

### EFFECTIVE IMMEDIATELY

Follow the easy application directions on the package and you'll be surprised at results. You'll not be bothered with drip any more.

### ORDER THROUGH YOUR SUPPLY HOUSE

Write for Interesting Circular

**J. W. MORTELL CO.**

Technical Coatings since 1895

533 Burch St.,

Kankakee, Ill.

**CONTRACTORS**—Include NoDrip Tape protection in your estimates to stop drip, preserve pipes and fittings and also for good appearance. NoDrip is brown in color, but can be painted any color with cold water paint.

Roll covers about 10 ft. of 1/2" i.d. iron pipe or 13 ft. of 1/2" o.d. copper tubing.

**\$1.69**

Higher cost of Hookline & Canada

### MANUFACTURERS and SERVICE ENGINEERS

NoDrip Tape has been used for years on production lines of leading refrigeration equipment manufacturers. Investigate its many advantages.

**CONTRACTOR NEWS**





(Continued from page 62)

## 46 HERE'S AN IDEA for labor-saving and time-saving employed by one New York restaurant.

The water station, complete with ice cube bin, is located just inside the door to the main kitchen. In this location, it is handy to reach, yet is removed from the main kitchen traffic.

*Restaurant Management, Dec., 1952*

## 47 REFRIGERATED shelves provide open storage facilities for a Washington, D.C., restaurant, and

help this establishment utilize all possible productive manhours of its employees. Using these shelves, each constructed of three refrigerated plates, 14 inches apart, salads can be made up in quantity in advance of service. Salad preparation work now begins at 10 a.m. The unit is open on both sides, although sliding glass doors on the salad girl's side can be closed to cut off drafts. Each cold plate is separately insulated, and in winter the top plate is heated and plate warmers have been constructed on top of the cabinet.

*American Restaurant, March, 1953*

## 48 SPACE AND TIME are saved by locating the vegetable and meat coolers as close as possible to the preparation departments for these products. A separate section for these departments is most efficient. Foods can be brought out of cold storage and prepared immediately, without the bother of carrying them upstairs and later having to dispose of them in the kitchen area itself. Cutting and preparing meat for service before transferring it to service refrigerators is another step in this same time and space saving direction.

*Hotel Monthly, Oct., 1952*

## 49 SOME FOUNTAINS suit both economy-minded daytime customers and the freer

spenders of the evening trade by offering two kinds of service — a daytime economy menu and an elaborate evening menu. Actually, the menu is the same, except that during the day the simple items like chocolate sodas and hot fudge sundaes are stressed, while at night the real fancy fountain concoctions are played up.

*Fountain & Fast Food, May, 1952*

## 50 BUFFET DINNERS, one of the more popular forms of club entertainment, depend for their

success largely upon the ability to serve foods at the proper temperatures. Adequate refrigeration facilities in the club kitchen are a "must" for the pre-meal preparation and storage of such items as cold cuts, molded salads, and chilled desserts.

*Club Management, Feb., 1953*

## 51 PASS-THROUGH windows connecting kitchen and service areas speed service at a busy New

York City luncheonette. One serves as a pick-up station for made-up orders and the other as a disposal point for all soiled dishes.

*(Fountain & Fast Food, April, 1953)*

## 52 STRETCHING meat these days is a downright necessity in food service operations and

the science of making a pound of meat serve more people now must go far beyond the meat loaf and hash stage. A variety of meat stretching recipes such as croquettes, casseroles, and chili con carne will help stabilize the profit percentage of any restaurant. In addition, a

number of commercial meat extenders now are available, prepared from varying combinations of bread or cracker crumbs, soya flour, spices, dehydrated vegetables, and monosodium glutamate for flavor. In general, suppliers claim that a given quantity of their meat extending products will double meat bulk with acceptable results.

*Fountain & Fast Food, Nov., 1952*

## 53 THE FRY KETTLE and the refrigerator are partners in many modern restaurants which specialize in deep-fried delicacies.

Freshness is a "must" with deep fried foods. With adequate refrigeration facilities, restaurants now prepare such entrees as chicken turnovers in advance on a production basis during slack hours, and keep them refrigerated until they're needed. They are brought to room temperature before being cooked. Raw ingredients for these and other fried foods can be stored safely before actual preparation.

*(Food Service, Nov., 1952)*

## 54 MAINTENANCE TIME is reduced to a minimum by plastic-finished wainscot, back bar, and

counter canopy in a Jacksonville, Fla., restaurant. Grease, stains, and smudges are readily removed by simply wiping the surface with a damp cloth.

*(American Restaurant, Feb., 1953)*

## 55 CUSTOMERS can see their favorite foods being prepared in many restaurants today. This

has brought into greater prominence the close association of lighting and its importance in different types of eating places. Too little light induces dullness, and sometimes discourages diners' appetites; excessively bright lighting, on the other hand, destroys the intimate atmosphere most restaurants try to achieve. Highlighting daily food specials is a good merchandising move. Fast food service places need brighter lighting than those for

more leisure dining. Kitchen areas, of course, need abundant lighting for faster, better service, less waste. Proper light means dollars and cents to the operator.

(Food Service, Jan., 1953)

**56**

**REFRIGERATED** double-deck salad trays save labor, speed service in the plant cafeteria of a West Coast manufacturing firm. Ample storage space is provided for a good display of salads, and restocking is a simple matter. Completely welded stainless steel construction meets all sanitary requirements.

(Fountain & Fast Food, Feb., 1953)

**57**

**PLENTY OF ICE** cubes are a "must" in the modern food service establishment. Thanks to modern refrigeration, represented by the automatic ice cube maker, this part of a restaurant's service has become a pleasure instead of a chore. Drinks stay cool and lively, and there is always an ample supply for icing fruit juices, seafood cocktails and salads. Automatic ice cubers consistently provide better cubes at lower cost.

(Food Service, Jan., 1953)

**58**

**VIOLET RAY** lamps mounted above the shelf on which orders are placed while waiting to be picked up by waiters keep the food hot for patrons of one hotel dining room. Equal care is taken with cold foods to ensure all dishes being served at proper temperatures.

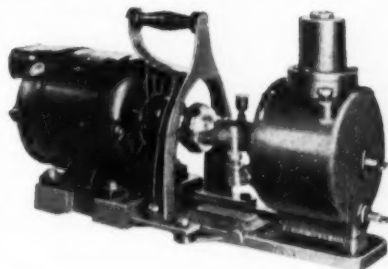
Hotel Monthly, September, 1952

**59**

**MOTION STUDY** is a high-sounding term and can be a very involved business for those who want to make it so. However, the application of simple intelligent motion study to food service activities can mean much by way of economy. The sandwich maker who sets up his work space incorrectly

## Designed Specifically for Dehydrating and Testing Refrigeration and Air Conditioning Units

### BEACH-RUSS PORTABLE VACUUM PUMPS

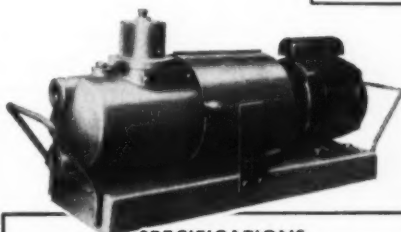


#### The Service Man's Dream! MODEL O SINGLE STAGE PUMP

Can be carried anywhere. Specifically designed for the one job of providing a completely practical and portable vacuum pump for all field jobs where a vacuum of 1 mm. is adequate.

#### SPECIFICATIONS

Vacuum, blank flange—	1 mm.
Capacity—	1 CFM.
Horsepower—	1/6 HP.
Weight—	48 lbs.
Oiling—	Pump automatically lubricated.
Over-all length—	21".



#### SPECIFICATIONS

Vacuum, blank flange—	1/10 mm.
Capacity—	2.5 CFM.
Horsepower—	1/3 HP.
Weight—	80 lbs.
Oiling—	Pump automatically lubricated.
Over-all length—	21".

NOTE: All valves are eliminated in this model.

#### For Higher Vacuum MODEL A TWO-STAGE PUMP

A completely portable two-stage pump for vacuum up to 1/10 mm. It is the only unit combining all the features desired by the air-conditioning and refrigeration service man . . . rugged, compact, light-weight, with extremely long life . . . and, above all, unusually high performance characteristics. It provides required two-stage operation in one small pump that eliminates complicated valves and adjustments.

Beach-Russ Vacuum Pumps are also made in types and sizes for evacuation and testing of refrigeration equipment on a production basis.

#### BEACH-RUSS COMPANY 56 CHURCH ST., NEW YORK 7, N. Y.

Send descriptive literature covering ☐ Model O Single-Stage Vacuum Pumps.  
☐ Model A Two-Stage Pumps.

We'd like to see the Beach-Russ engineer in our area ☐.

Name \_\_\_\_\_

Company \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_

Zone No. \_\_\_\_\_

State \_\_\_\_\_

**BEACH-RUSS COMPANY**  
56 CHURCH STREET • NEW YORK 7, N. Y.

Circle No. 88 on Reader Service Card

## INTER-MATIC TIME SWITCHES ARE EASIER TO INSTALL...

**Contractors everywhere specify Inter-Matic because it provides for easy installation.**

1. Mechanism can be easily removed—just press spring.
2. Clearly marked terminal block—large terminal screws.
3. Convenient mounting holes in back of case.
4. Plenty of knockouts—one on each side, two on the bottom, one in the back.
5. Lots of extra room to facilitate wiring.



Available in a complete line at all leading distributors. Ask for a brief demonstration, or write for complete catalog.

**International Register Company**  
2620 W. Washington Blvd., Chicago 12, Ill.

## INTER-MATIC TIME SWITCHES



the adjustable  
**CAPILLARY TUBE** for perfect  
Refrigerant Control

- Remains constant, once adjusted to a given resistance.
- Assures capacity balance between unit and capillary tube resistance.
- Eliminates float or automatic expansion valve.
- Equipped with 150 mesh monel screen, easily removed for cleaning.
- Comes complete — ready to install.
- Sold by Leading Wholesalers.

Send for fully descriptive Bulletin SE 51  
**Allin MANUFACTURING COMPANY**  
1153 West Grand Ave., Chicago 22, Ill.

can lose valuable time in rush periods. The correct way to dip ice cream is subject to analysis frequently. Is the problem of dipping up sandwich or salad mix looked into as often? Definitely not—but it should be.

*Fountain & Fast Food, March, 1952*

**60** **FROZEN FOODS** make buying of fresh vegetables much simpler and more economical, especially for the smaller food service operator. Ample low temperature storage facilities enable him to get "garden-fresh" vegetables at any time and in quantities such that he can buy economically. He can store the vegetables at low temperature until use—and use them as needed. Many small food service locations are short on frozen food storage space. Sufficient low temperature equipment, wisely used, can be a real money-saver for them.

*Food Service, Dec., 1952*

**61** **ROLLING BEEF** wagons are being used by some of the country's better clubs to bring this delicacy right to the diner's table. Completely mobile, these stainless steel carts consist of a large water jacket heated by charcoal to keep the roast beef and vegetables in the upper compartment hot. A lower compartment is provided for warming dishes. Lights are operated by batteries.

*Club Management, Feb., 1953*

**62** **LAUGHS ARE GOOD** merchandisers, the proprietor of a Reno, Nev., coffee shop has found, so he plasters his establishment with humorous signs bearing such legends as "We are not recommended by Duncan Hines", or, "Don't try our hot apple pie and ice cream—it could become a habit!" To carry out the apple pie gag, each slice is served on a special plate bearing a picture of a piece of apple pie ala mode and the same warning that appears on the sign.

*(Fountain & Fast Food, Feb., 1953)*

**63** **REFRIGERATED** cases form an important part of the new back wall assembly of a Madison, Wis., restaurant which also includes soda fountain, "Lowerators," salad station, hot food units and toaster sections. Each counter bay has its own dish cart which is removed to the kitchen by means of a special wall push-through for faster handling.

*(American Restaurant, March, 1953)*

**64** **ILLUMINATED** as well as refrigerated, the large pastry and salad display case behind the service counter of an Amarillo, Tex., drugstore serves not only as an eye catcher but as an effective merchandiser of the products displayed.

*Fountain & Fast Food, March, 1953*

**65** **TEACH YOUR USERS** in the food service field how to store properly the foods that require refrigeration. Proper food preservation is impossible where the refrigerator is so "stuffed" that adequate air circulation is impeded. Also, different foods require different "zones" of cold. Instructing your customers in the proper use of their refrigeration equipment—not just at the time they buy it, but regularly from time to time—proves your interest in their problems. It will also lead to sales of new and more modern equipment as your customer's needs for refrigeration change.

*Food Service, March, 1953*

**66** **BIG BUSINESS** can be derived from a small room in any hotel's food service operation if this room is made to provide some manner of special service such as the "Night Hawk" room service operated by a Kansas City hotel from a small 38-seat grill room from 11 p.m. to 7 a.m. when the hotel's other food service facilities are closed. Approximately one-third of the room's daily turnover of 1000 food checks stem from its "after

hours" service. To encourage the idea of "raiding the icebox," the Night Hawk room service menu is designed with a cover simulating a typical refrigerator.

(Hotel Monthly, Jan., 1953)

**67**

**MORE BUSINESS** and increased efficiency of employees resulted from the revamping of the illumination in this San Diego, Calif., malt shop. The new fluorescent fixtures produce 70 foot candles of light at working levels, and provide an atmosphere of cheerfulness and cleanliness.

(American Restaurant, April, 1953)

**68**

**A SEPARATE** fountain, fully equipped in every respect, supplies the entire mezzanine food operation of a drugstore located in the heart of New York City's garment center. Mezzanine tables are open only from 10:30 a.m. to 3:00 p.m. Monday through Friday. This fountain like the one in the store's main food service section, is self-contained, with its own fountain unit, sandwich board, grill section and toaster. Each stool turns over an average of 30 times a day.

Fountain & Fast Food, May, 1952

**69**

**TRAFFIC AISLE** for all waitress travel between kitchen and dining area is provided along the right wall of a busy Chicago restaurant. It is separated from the table area by a low wall which conceals the three-tier dirty dish carts, keeping all used utensils out of sight of diners.

Fountain & Fast Food, March, 1953

**70**

**LOCATION** of refrigeration equipment is important to efficient restaurant operation. Such units should be placed not only near preparation centers but also in easily accessible serving spots. In large kitchens it has been found that the baking, meat, salad,



## You'll have a "DOUBLE BARRELLED" argument, too, when you handle



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\* from actual user reports



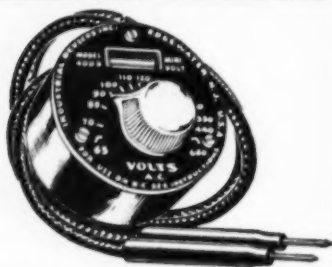
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*Handy*

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house, or  
write to:

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BROS., INC.**  
410 WILLOW ROAD  
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and vegetable areas all need their own refrigerators. All sizes of restaurants need conveniently located electric water coolers and cold dairy product storage area. Refrigerated drawers located under the sandwich counter, griddle, and fry kettle hold food fresh and readily accessible.

*Food Service, June, 1952*

**71**

**ADEQUATE** quantities of cold vegetables, salads, and desserts that enhance the menu of a restaurant in the nation's capitol are held in the large refrigerated cabinets below the service counter. The proximity of these supplies to the point of service saves steps for waitresses, time for patrons.

*Fountain & Fast Food, March, 1953*

**72**

**WINE TASTINGS**, modeled after the traditional European affairs, can go a long way toward selling a club's membership on the regular use of table wines with meals. But no such practice can be successfully maintained without strict adherence to the need of serving each type of wine at its proper temperature. To do this, adequate refrigeration facilities for reserve stocks of wine must be available.

*Club Management, April, 1953*

**73**

**THE SELF-SERVICE** meat and dairy display case usually found only in retail stores, has been put to good use in the kitchen of one Philadelphia restaurant as a means of providing open storage of salads and first courses.

*Food Service, Aug., 1952*

**74**

**LET 'EM LOOK** right in on your food preparation activities, if you want people to patronize your restaurant. That's the theory of one Boston spaghetti house which practices what it preaches by hav-

ing a wide expanse of window through which passersby can get an uninterrupted view of the spotless, well lighted interior.

*(American Restaurant, March, 1953)*

**75**

**A LARGE WALK-IN** refrigerator just outside the banquet hall of one hotel will accommodate at least five hand trucks, each of which will hold a great number of waiters' trays. These are used for storing appetizers, salads, and desserts for banquet service. The items are made up in advance and stored in the cooler until ready to be taken to the table.

*(Hotel Monthly, Sept., 1952)*

**76**

**IMPROPER** refrigeration is a source of more waste than many restaurant managers realize. To be sure, leftover foods should not be held overly long, but proper refrigeration should keep them safe and at the point where they appear right for future use. Different classifications of products require different temperatures for best results. Refrigerators should be checked regularly to avoid wasteful deterioration or food spoilage.

*Fountain & Fast Food, March, 1952*

**77**

**WRAPPED IN FOIL** and a protective waxed paper covering, the hamburgers served by a Seattle, Wash., drive-in offer customers every assurance of food prepared under the most sanitary condition and served piping hot.

*(American Restaurant, Jan., 1953)*

**78**

**CREAM PIES** are ever popular with restaurant patrons — but they offer a special handling problem. They are extremely susceptible to spoilage, especially in hot weather. Proper, continual refrigeration is the most efficient answer. Many cities require refrigerated storage of cream and custard-filled pies and similar desserts. Refrig-

erated display fixtures now available enable the restaurant operator not only to preserve perishable cream pies at proper temperature, but to display these "specialties" more attractively to increase sales and profits.

(Food Service, March, 1953)

**79**

**IMMACULATE** cleanliness is the keynote of all top-grade hotel and institutional kitchens. Ceramic tile walls and floor do not collect dirt, and are easy to clean. The same is true of stainless steel or porcelain fixtures and equipment.

(Hotel Monthly, March, 1953)

**80**

**ORDERS ARE CALLED** to the kitchen of one busy Washington, D. C., restaurant over a modern inter-communication system. The management has found that this means of relaying customer orders and requesting replenishing of sup-

plies greatly speeds service, makes possible greater stool turnover during rush periods.

(Fountain & Fast Food, March, 1953)

**81**

**FOLDING DOORS** provide a maximum of flexibility in the operations of one Houston, Tex., cafeteria. Attached to strategically placed columns they can be used to divide the large dining area into a series of smaller rooms for private dining or party use.

(American Restaurant, April, 1953)

**82**

**JUNIOR-SIZE MUG** of root beer is given free to every child under six years of age who visits one Spokane Wash. drive-in. "Unless you have tried this stunt," the owner testifies, "you would not believe the number of cars with children that this promotion will bring onto your lot."

(Fountain & Fast Food, April, 1953)

**83**

**AN INSULATED** container for ice placed right alongside the racks of dry cereal in the breakfast pantry of a Los Angeles, Calif., hotel facilitates rapid preparation of light meals and eliminates cross-traffic and confusion in the main area of the kitchen.

(Hotel Monthly, January, 1953)

**84**

**A FOUNTAIN** favorite that comes in for more than its share of poor preparation is the milk shake. Each section of the country has its own formula — but here is one way to make a milk shake that will meet the taste requirements of most customers. Pour 8 oz. of homogenized milk into a pre-chilled mixing cup. Homogenized milk gives higher yield and a smoother drink. Add 1½ oz. of syrup. Too much syrup will spoil the flavor. Add two generous scoops of ice cream. Ice cream helps lower temperature which in turn increases yield. For rich, full malted flavor

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add  $\frac{5}{8}$  oz. of malted milk powder or one trigger trip on automatic dispenser. Place cup on mixer until ice cream is dissolved and mixture is blended smoothly. Roughly one minute should do it.

*Fountain & Fast Food, May, 1952*

**85**

**DESIGNED** to give customers a good look at all food preparation activity is the new \$30,000 stainless steel kitchen installed for the coffee shop of a leading Washington, D. C., hotel. Refrigeration, of course, plays a key role in this efficiently arranged food production center.

*(American Restaurant, Jan., 1953)*

**86**

**LOOKING AHEAD** to hot weather and the need to have their air conditioning equipment in tip-top shape is something many food service operators overlook. You can do them a real service by reminding

them about it. Better yet, arrange for a regular maintenance and inspection service, so that their equipment will be ready for use whenever it's needed. When they eat out, people want comfort as well as good food. Remind your customers of the extra business they'll get in hot weather by being sure that their air conditioning systems are in good operating condition.

*Food Service, Jan., 1953*

**87**

**YOU CAN SELL** more ice cream storage and dispensing equipment to restaurants by "selling" them this idea. Instead of sticking to vanilla ice cream on ala mode desserts, try other — like pecan ice cream on rhubarb cobbler; toffee ice cream on apple pie, and other ice cream dessert combinations that are "different". It will build dessert business, give the restaurant a merchandising point — and increase its need for and use of low temperature equipment.

*Food Service, Dec., 1952*

**88**

**DIRECTLY** from the skillet come the ham 'n eggs turned out by a busy restaurant in Chicago's loop district, and that's just the way they're served to the customer. The skillet itself is placed on a wooden platter to facilitate service. A stack of skillets, each with a slice of ham already in it, are nested near the cook. He simply adds butter, breaks in the eggs, and puts the skillet on the flame. Fried chicken is another skillet-served specialty.

*(Fountain & Fast Food, Feb., 1953)*

**89**

**PROGRESSIVE** schools are increasingly adopting the use of refrigeration equipment and complete kitchens in their school lunch programs. Use of modern equipment, and providing pleasant surroundings, is responsible for the growing popularity of this type of installation. Health authorities say that school children should have at least one hot dish at lunch. It's been

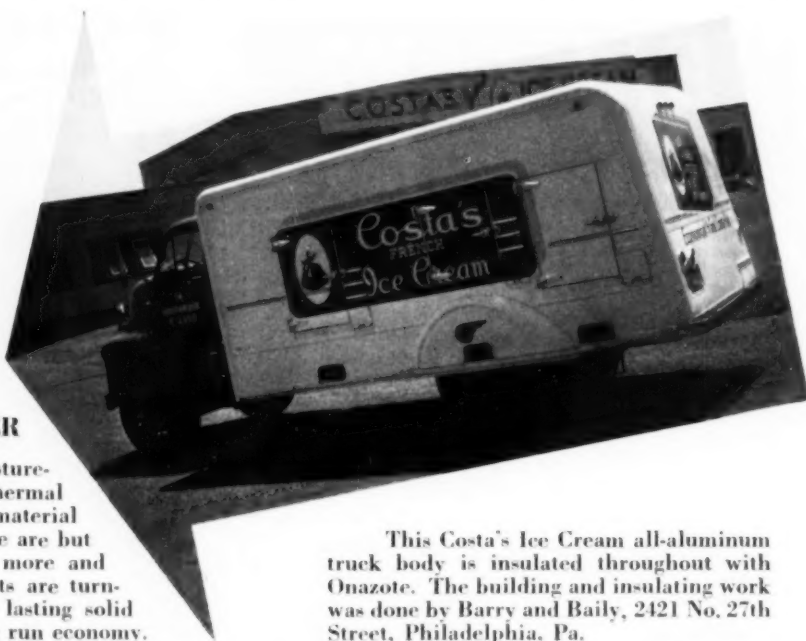
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**EXCLUSIVE TERRITORIES** are now open to manufacturers' agents thoroughly familiar with the refrigeration industry. An excellent opportunity to profit from the growing recognition of Onazote as the finest commercial thermal yet developed.



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JUNE, 1953 • COMMERCIAL REFRIGERATION

learned that pupils behave better in pleasant surroundings; discipline problem is less. Facilities of the cafeteria also can be made available for various community affairs.

*Food Service, July, 1952*

**90**

**A "SEE-THROUGH"** counter, entirely open beneath the service level except for pedestal-type supports at either end, has done away with under-counter shelves at one downtown Chicago restaurant. Management agreed with the designer that such shelves served chiefly as a "catch-all" for anything waitresses or bus boys wanted to get out of sight, and created an unnecessary sanitation problem.

*Fountain & Fast Food, March, 1953*

**91**

**THE KITCHEN** of one modern new hotel actually was the focal point in the design and layout of the institution's entire food service operation. The kitchen was planned *first*; then the various dining rooms were arrayed around it. For maximum efficiency, the entire kitchen operation, with the exception of dishwashing facilities, is contained on one floor, eliminating the need for elevators or stairs. This greatly simplifies transportation and labor problems.

*(Hotel Monthly, Jan., 1953)*

**92**

**COOLING FRUIT** gelatine salads are a hot weather leader on the menus of many food service establishments, but they can't be properly prepared and stored without adequate refrigeration. Their versatility is ideally suited to fast food operation.

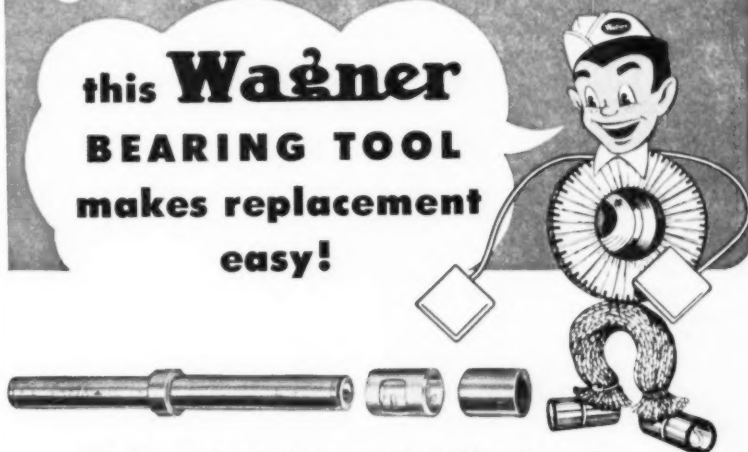
*Fountain & Fast Food, April, 1953*

**93**

**SPECIAL** food service stations do much to speed food handling in one Los Angeles coffee shop. Thermostatically controlled equipment saves time and effort, keeps foods and service materials

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ready for use where they are needed at all times. Electrically heated and refrigerated, these stations keep beverages, hot rolls, ice cubes, napkins, silver and dishes handy for waitresses.

*Food Service, Nov., 1952*

**94**

**EMPHASIZING** cleanliness pays off in increased patronage, a Salem, Ore., drive-in has found.

Consequently this establishment heavily advertises the fact that it is closed one day a week for thorough "housecleaning" of the entire operation. This fact is prominently pointed out on menus as well as on signs posted behind the counter.

*(Fountain & Fast Food, April, 1953)*

**95**

**EXTRA USE** of their reach-in refrigeration units is being made by many of the better restaurants and clubs. They are storing all meat scraps in their reach-ins for use in stews, chopped

steaks, etc. Most of these places seldom, if ever, buy ground meat, preferring to make their own. An increasing number of the higher class eating places are also using freezers for meat scraps storage, since it permits them to keep these left-overs for longer periods than at normal case temperatures.

*Food Service, Feb., 1953*

**96**

**SPEED ARRANGEMENT** of fountain and backbar service equipment helps one Kansas

drug fountain turn out customers fast and make them feel at home at the same time. A water and service station has been installed at one end of the fountain for booth service. Supplies like silverware, napkins, etc., are accessible with minimum steps. Next to this station is the sandwich-cold food unit with refrigeration, storage drawers and toasters. Steam table, combination grill and deep fat fryer are next in line, then comes the soda fountain.

Heavy food items are prepared in a separate kitchen equipped with extensive refrigeration storage facilities.

*Fountain & Fast Food, June, 1952*

**97**

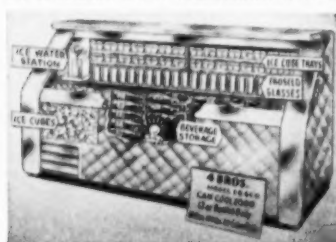
**PROPER PLANNING** of institutional kitchens can effect great savings in valuable floor space as well as in equipment costs. In one Kansas City hotel, a divided kitchen area is made to serve both a cafe and a coffee shop. Both sections are served by the same dishwashing department.

*Hotel Monthly, September, 1952*

**98**

**SPECIAL MENUS** for the "small fry" are used by an increasing number of restaurants to tempt junior appetites and gain favor and patronage from parents, too. One enterprising Kentucky operator labels his junior menu with such popular favorites as "The Lone

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JUNE, 1953 • COMMERCIAL REFRIGERATION

Ranger", "Howdy Doody", etc. What youngster wouldn't rather order these super-sounding specials than roast beef, or fried scallops? Yet they're one and the same.

*Food Service, Feb., 1953*

**GLISTENING ROW** of built-in walk-in coolers behind the serving counter of the banquet kitchen make it possible for the food preparation staff of this hotel to expedite the serving of meals for special functions. These coolers readily accommodate trucks previously loaded with trays of salads or desserts, so that great numbers of such items can be ready for simultaneous service.

*Hotel Monthly, January, 1953*

**SEPARATE** fountain facilities in each of three 50-stool bays speed service in the food service section of a New York City variety store. Located in a busy shopping district and catering largely to hurried shoppers and clerks, speed is of the essence in this operation. The duplicate fountain facilities help immeasurably in this respect.

*Fountain & Fast Food, Nov., 1952*

**ICE CREAM SELLS** the year around in one popular Buffalo, N. Y., soda bar, because the establishment has developed a reputation among 'teen agers for the proper preparation and service of all manner of ice cream confections. The shop makes all its own ice cream and insists upon top quality ingredients, proper preparation, and proven service techniques.

*(Fountain & Fast Food, April, 1953)*

#### **L-O-F NAMES TRIANGLE PHILA. DISTRIBUTOR**

Triangle Insulation Co., Inc., Philadelphia, has been named distributor in Philadelphia and South Jersey for "Super-Fine" glass manufactured by Libbey-Owens-Ford Glass Co.

### **OPERATING COSTS . . .**

*Continued from page 80*

test period the temperature of the water, which was secured from the city mains, was 62F but by the end of the test period had risen to 65F. The temperature of the water passing through the condenser increased from 22F to 25F depending upon the length of compressor operation. A total of 37,126 gallons or 4,455 cu. ft. of water was used.

#### **Cooling Water Wasted**

It must again be noted that all of the cooling water was wasted to the sewer. This would not be permitted in a great majority of municipalities today and it would be necessary to install a cooling tower to cool the water by means of sprays or other arrangements after it has been discharged from the condenser. This would add some additional cost to the installation. When the water is recirculated, however, the only additional water required is an amount equivalent to approximately 5 to 10% of the water circulated for make-up water to replace that which is lost through evaporation and wind drift. Had a cooling tower been used on the test installation, the cost of water would have been reduced to approximately 10% or to something less than \$2.

#### **Current Costs Up**

On the other hand the cooling capacity of the compressor would have been somewhat reduced because the circulating water from a cooling tower is not quite as low in temperature when it enters the condenser as is water secured direct from the city mains. The capacity of a cooling unit is affected by the return air temperature and the temperature of the cooling water as it enters the condenser and any temperature increase above that at which the compressor was rated will affect a reduction in capacity.

When a cooling tower is used, the cost of electrical energy will increase slightly since a circulating pump is required that operates every time the compressor is in operation. Some cooling towers also have a second motor driving an induced draft fan for better air cir-

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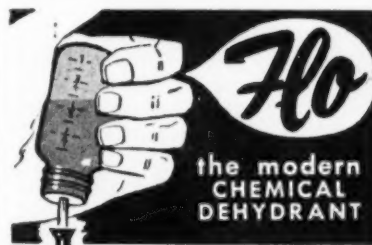
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- FLEXIBLE TUBING
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Jarene "B" Vinyl Plastic is an exclusive Jarrow compound. It is long lasting, weather resistant, compresses easily and is flexible to almost any degree from soft to semi-hard. Offered in a wide choice of colors.

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**Your Customers' Best Buy...**

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**Speed-Freeze PRODUCTS**

**BEVERAGE COOLERS**  
unexcelled storage capacity  
(56 cases 12 oz. - 8 ft. cooler!)

**INSTANTANEOUS DIRECT DRAW DRAFT BEER COOLERS**  
(with refrigerated faucets)

**IDEAL**

**COOLER CORPORATION**

2953 Easton Ave. St. Louis 8, Mo.

culuation through the tower and more effective cooling of the water and this would also add to the amount of electrical energy used. These are fractional horsepower motors, however, and would add only a nominal amount to the total cost of electrical energy used.

#### Location Affects Demands

This cooling investigation that was conducted this past summer has supplied a great deal of timely and pertinent information that the industry can use immediately in its approach to the cooling market next summer. While Research Residence No. 2 is typical of houses that may be found most anywhere, the data secured is pertinent and relevant to the characteristics of this particular structure and to only that structure. The performance of a system in another house may show similar but perhaps somewhat different operating characteristics.

For instance, the results of the past summer's testing would indicate that for the "average" small house in "most" areas, a cooling unit with 2 to 3 ton capacity will adequately handle the residential summer cooling problem. However, this assumption cannot be applied to homes in the south or southwest where high summer temperatures over longer periods of time coupled with high humidity conditions would require cooling units of greater capacity.

#### Air Distribution Adequate

Likewise, the air distribution system in the test home was primarily designed for winter heating, yet proved adequate for summer cooling purposes. This practice might not apply in the south where winter heating needs are much less and smaller capacity duct systems may be installed. The obvious solution is to design the duct system in the southern home with a primary objective of providing sufficient cooling capacity.

It should also be noted that the house was not occupied during the testing of the cooling system. Consequently, the internal latent load resulting from normal occupancy habits such as cooking, washing, bathing, etc. was not present. A substantial internal latent load will undoubtedly have some effect upon the performance of the system. This

will prove particularly significant to the home owner who likes to entertain large numbers of people in his home. If his cooling system is sized closely—or even a bit undersized, in the interest of installation economy—the failure of the system to demonstrate its cooling merits the first time he invites a group of people over to his house to show off his air conditioning system may prove to be a big disappointment. The builder or installer will do well to warn the customer about the limitations of the system in advance.

It is believed that the results of the past summer's testing indicate a general pattern which will be found in most domestic installations, but obviously much additional research and investigation is required before a definite pattern can be established.

#### EBCO ASSUMES SALE OF KELVINATOR AIR DRIER

Ebco Mfg. Co. has taken over sales and advertising responsibilities for the Kelvinator air drier, it has been announced by W. G. Kronauge, manager of special products for Kelvinator. This arrangement is the same as the one which has been in effect on Kelvinator water coolers for several years. Ebco sales supervisors for water coolers and air driers include L. C. Love, R. H. Orthoefer, T. W. Giller, A. E. Bezer and H. W. Kirk.

#### G-E REORGANIZES MOTOR-GENERATOR DIV.

The Small and Medium Motor Department of General Electric Co. has been discontinued and its operation has been decentralized into three new product organizations.

A divisional marketing department was also established to facilitate a unified approach to all division marketing policies.

The four new departmental organizations and their managers are: Marketing Department, Walker H. Henry, manager; Medium Induction Motor Department, Olaf F. Veal, general manager; Direct Current Motor and Generator Planning Study, Oscar L. Dunn, manager; Synchronous and Specialty Motor and Generator Department, Fred B. Hornby, general manager.

## McCray Detroit Branch Sold To Local Group

Sale of the Detroit, Mich., branch of McCray Refrigeration Co., Inc., to a group of local business men has been announced by J. W. Bostwick, McCray's vice president in charge of sales.

New officers and owners of the Detroit firm, which will now be known as the McCray Detroit Refrigeration Co., are: George Owens, president; Isadore Wolf, vice president; Art Dorau, treasurer; Ellis Ulch, secretary.

Owens and Dorau are the owners of Dorau-Owens Co., engineers and manufacturers of store fixtures. Wolf was McCray's branch manager in Detroit and has been with the company for 46 years. Ulch, who operates the Ulch Co. in Pontiac, Mich., is combining his company with the other principals in forming the new corporation. He has been serving as a distributor for McCray, and the new Company takes over the Pontiac territory as a McCray distributor.

M. L. Crozier and Leo Holka, who have been field salesmen for

## WARREN FARR'S FIRM MOVES TO LARGER QUARTERS



HERE'S THE NEW HOME of Refrigeration Sales Corp., Cleveland's Carrier-Norge distributor. The company's new location at 701 St. Clair Ave., completely air conditioned, contains approximately 37,000 sq. ft. of floor area for offices, display and storage. Warren W. Farr is president of the firm.

McCray out of the Detroit branch will go with the new company in like positions.

The new company will operate in the same quarters as the former McCray branch until sometime

early this summer when it will move into a new building being constructed in suburban Hazel Park. The merger makes the new firm one of the largest of its kind in the Michigan territory.

## Your Sales are the payoff

**LA CROSSE**  
THE LINE THAT'S  
PROFIT DESIGNED FOR YOU

AND LA CROSSE GIVES YOU MORE OF EVERYTHING YOUR CUSTOMERS WANT MOST IN COMMERCIAL REFRIGERATION EQUIPMENT

AUTOMATIC KUBER

SELF CONTAINED BOTTLE COOLER

DIRECT DRAW

SELF CONTAINED BLUEBIRD

DRAINBOARD

ICE CUBE MAKER 12 TRAY

ECONOMY PRE-COOLER

**LA CROSSE COOLER CO.**  
2814 LOSEY BLVD., SO.  
LA CROSSE, WISCONSIN

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80 BROAD ST.  
NEW YORK CITY  
CABLE: EXIMPORT

Circle No. 103 on Reader Service Card  
and AIR CONDITIONING • JUNE, 1953

## NOW...

### SAVE TIME—SAVE MONEY!



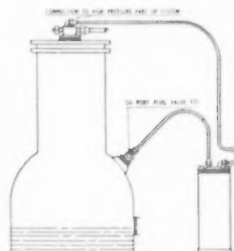
with the new "Pressure-speed" oiler in adding oil to all type refrigeration units.

- No Dirt!
- No Mess!
- No Waste!

ESPECIALLY GOOD FOR SEALED UNITS.

### Simple to Use—

Just fill with oil and let the High-side Pressure or a Refrigerant Cylinder Pressure force in the correct charge. Holds one quart. In many cases it is not even necessary to interrupt the operation of the system.



Write direct or see your local wholesaler.

**REFRIGERATION DEVICES CO.**  
P. O. BOX 108-A NUTLEY, N. J.

Circle No. 104 on Reader Service Card



Circle No. 106 on Reader Service Card



# AMMONIA VALVES AND REFRIGERATION PRODUCTS



**Semi-Steel  
Shut-Off Valve**

Highest grade non-porous metal—full size ports—clean cut threads. Back seated stem—Shank design base—perfect alignment. Long life packing ring.

**3-Way Dual  
Shut-Off Valve**

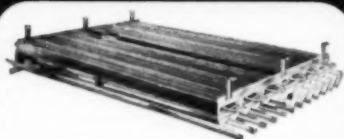
For use where Refrigeration Codes require dual relief valve installations. Stainless steel stem. Indicator plate on hand wheel shows position of valve shut-off. Completely rust-proofed.

IF YOUR JOBBER DOESN'T STOCK—  
WRITE

**CYRUS SHANK CO.**

631 W. Jackson Blvd. Chicago 6, Ill.

## Buy Peerless FOR PERFORMANCE



### Flash Coolers Fin Coils Flash Pans

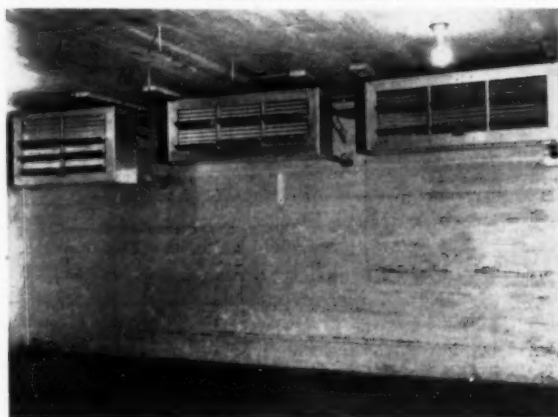
The Peerless Line of quality products is designed and constructed to meet every demand of modern commercial refrigeration. Our Flash Coolers, Fin Coils and Flash Cooler Pans have proved their superiority in performance under widely varying operating conditions. They are built with an eye to appearance, economy of space, and the utmost convenience in installation and servicing. Louvers fabricated from polished aluminum. Made in a wide variety of standardized sizes and styles—all of unchallenged Peerless quality. Write for Bulletin 49G today.

**Peerless of America, Inc.**

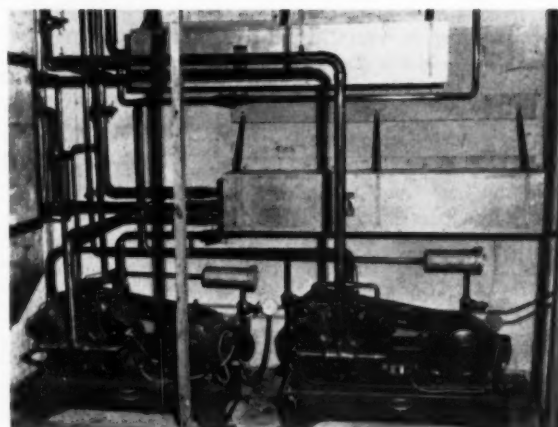
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Circle No. 105 on Reader Service Card  
130

## AUTOMATIC DEFROSTING PROTECTS TURKEY FARM INSTALLATION AGAINST FREEZING IN WINTER



**THERMOBANK  
EVAPORATORS** installed inside the refrigerated room of the Lincoln Trail Turkey Farm, Athens, Ill.



**COMPRESSOR  
ROOM** of the Lincoln Trail Turkey Farm, Athens, Ill., showing the Thermobank and high side installation.

Freeze-proof protection against ambient temperatures in cold winter weather is provided for the Lincoln Trail Turkey Farm, in Athens, Ill., by a Kramer "Unicon" air-cooled condenser and "Thermobank" automatic defrost system installed recently by George Smith of George Smith & Sons, of Springfield, Ill. The equipment was purchased through the U.S. Electric Co., of Springfield.

The turkey farm processes 11,000 birds yearly, and when its water-cooled refrigeration system froze important equipment was destroyed. The new system automatically maintains temperatures of 30 F for chilling and —10 F for freezing and storage.

Major equipment installed included two RC500 Unicon air-cooled condensers, two No. 12 Thermobank combination evaporator systems, and two 5 hp Brunner condensing units. Each of the two 5-hp compressors, connected to the air-cooled condens-

ers, eliminated the use of any water in the system. Pressure controls were installed to raise the head pressure by stopping the Unicon fans when needed during winter operation. By use of a damper arrangement, air for the condensers can be supplied from either outside or inside. During summer, by removing the air from the inside, W. Wilson, owner of the turkey farm, is able to ventilate the working area at no additional cost.

The two 5-hp systems, operating independently of each other, allow quick automatic defrosting of one system while the other system holds the box temperature, keeping temperatures as constant as possible at all times. Also, the two systems provide insurance in the event that one breaks down. The other system will prevent spoilage of the turkeys while repairs are being made. Temperature is controlled by thermostats connected to solenoid valves in the liquid line.

## ODOR CONTROL SUBJECT OF LONG RESEARCH

The absolute removal and destruction of bacteria and odor in occupied spaces such as homes, theatres and business buildings may some day be a reality. Extensive research on this phase of air conditioning was described by R. L. Kuehner, research engineer, York Corp., before the 59th annual meeting of ASHVE in Chicago.

"By concerted effort, the standards of temperature, relative humidity, and air motion have been set and become the basis of air conditioning practice. By the same concerted effort, (air) sanitation qualities must be standardized before claim can be made to truly conditioned air," Kuehner said.

Removal of bacteria and odor, rather than the masking or neutralizing of odors or reducing the sensitivity of the olfactory sense, were Kuehner's concern. He described basic techniques whereby bacteria and odor control work can be conducted in an engineering manner. He said that the fundamental nature

of experimental results secured by these techniques presents to the air conditioning industry a yardstick for the furtherance of research in air sanitation and for a uniform evaluation of the results of such work.

The control of such odors as burning tobacco and cooking odors is possible, according to Kuehner, who explained that concentrations of tobacco odor are uniform and measurable, and therefore the deodorant effect of any chemical or mechanism can be quickly evaluated from the standpoint of efficiency, cost and other limiting factors.

## REMINGTON REALIGNS FACTORY SALES AREAS

A realignment of factory sales territories in the Remington Air Conditioning Div. was announced recently by M. L. Judd, general sales manager.

E. M. Johnson, Swarthmore, Pa., who has been a district manager responsible for part of the eastern seaboard are from Philadelphia to Charlotte, because southeastern regional sales manager for the areas from

Trenton, N.J. south to Florida and west to eastern Tennessee, Washington, D.C., Harrisburg, Pa., and western Alabama.

John P. Moffitt, Old Greenwich, Conn., will supervise sales in the six New England states and the Albany-Troy, N. Y., trading area.

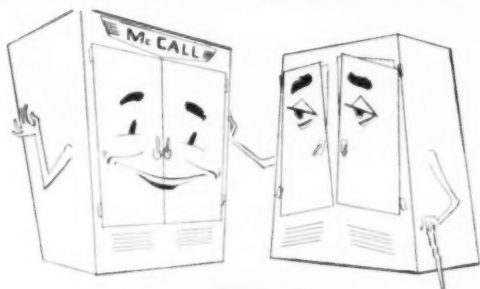
W. H. Lassiter Co., Richmond manufacturers' representatives, will cover Virginia and North and South Carolina. W. H. Lassiter will handle the Virginia accounts and W. L. Henderson, North and South Carolina, from headquarters in Charlotte, N.C.

R. H. Case, Seattle, will cover Washington, Montana, Idaho and Oregon. R. E. Tweedy, Phoenix, Ariz., will continue as representative in the southern California-Arizona area.

## KING ATLANTA MGR. FOR PENN CONTROLS

Harold S. King has been appointed manager of the Atlanta, Ga., district office of Penn Controls, Inc., replacing F. D. Klein, who is no longer associated with the Penn Controls organization.

## HOW OLD WILL YOUR REACH-IN BE



*in 20 years.*

An all-welded reach-in stays young.



Only McCall offers steel sentry construction with which you get a completely welded case, a complete vapor seal, and non-sweating mullions.

Limited territories available to qualified firms. Send this ad for information.

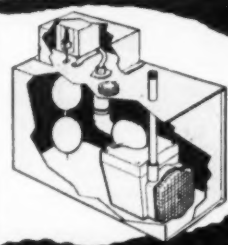


REFRIGERATOR CORPORATION  
Hudson, N. Y.



## Gelber's

## LITTLE GIANT CONDENSATE PUMP



Especially designed for Removal of Condensate in Mechanical Refrigeration and Air Conditioning Units, small, sump installations.

- Hermetically Sealed Little Giant Vaporizer Pump
- Positive Displacement Electric Switch
- Quiet, Automatic Operation
- Complete, Ready to Install

The LITTLE GIANT PUMP is made of die-cast aluminum with baked plastic coating to prevent corrosion. Hermetically sealed in 3 years supply of oil and requires no further oiling. Pump is electrically grounded and furnished with a 6 foot cord to provide 110 volt 60 cycle AC only.

### SPECIFICATIONS

Model No.	PSI	1 ft.	6 ft.	8 ft.	10 ft.	Shutoff Head	Full Load Amps	Motor Wt. lbs.	Ship. Wt. lbs.
C-2	4	180	72	28		9 1/2	75	40	1/150 11 1/2
C-3	7 1/2	350	240	200	157	17 1/2	21	160	1/40 17

### LIST PRICES

Model No. C-2 11 1/2" H, 11" W, 5" D. F.O.B. \$53.00  
Model No. C-3 12" H, 14" W, 5" D. F.O.B. \$64.00



LITTLE GIANT PUMP

## LITTLE GIANT VAPORIZER PUMP

For evaporative coolers, condensate removers, for refrigerators, sump pumps, oil coolant pumps - wherever a compact, recirculating pump is required.

Model No.	SIZE	PERFORMANCE	SHIP. WT. lbs.	PRICE W/Access.*
No. 2	4 1/2" x 4 3/4" x 3 1/2"	Same as C-2 above	4 lbs.	21.00 26.75
No. 3	6 3/8" x 6" x 4 3/8"	Same as C-3 above	8 lbs.	33.00 38.95
No. 4	6 3/4" x 6 3/4" x 5"	1/30 H.P. 3/4" intake, 475 G.P.H. at 1 ft., 215 G.P.H. at 10 ft., 10 lbs.	42.00	49.00

\*Accessories include: Basket Screen, 9 Ft. Cord, Switch, 6 ft. Rubber Tubing, Hose Clamp

GELBER CO.



162 N. CLINTON STREET  
CHICAGO 6, ILLINOIS



Replacement controls got you in a dither? Why mess around with makeshifts . . . when you can get the *right replacement* in short order from your Ranco wholesaler. When you stop to think there's a Ranco control for more than 4,000 replacements . . . far more than any other manufacturer . . . you'll never use any other!

Replace it right the first time with Ranco!

# Ranco Inc.

COLUMBUS 1, OHIO

## New Ranco Supplement Bulletin No. 1466

Contains dozens of exact replacement controls not previously available from any source! See a copy at your Ranco wholesaler.



WORLD'S LARGEST MANUFACTURERS OF REFRIGERATION CONTROLS

Circle No. 109 on Reader Service Card

## THE SERVICE MAN'S DEPARTMENT

# HERE'S HOW!

### Here Are Some Tips On Repairing Solenoids

If a solenoid gets hot or starts to hum, you can bet there's trouble brewing. The safest thing to do is to check into the situation and correct the difficulty before the solenoid ceases to function properly.

If the solenoid heats up, the trouble may lie in a damp coil, low voltage, a plunger which is not rising completely, or high voltage. If the coil is damp, the unit should be dried in an oven at not over 140 F; if voltage is low, check and correct this condition; if the plunger is not rising, remove the coil assembly and clean plunger tube and seat with good solvent; if voltage is high, check voltage transformer.

If the solenoid hums, there may be a loose nut on the cap, voltage may be low, plunger may not be rising, or coil may be loose. If the nut on the cap is loose, tighten the nut; if voltage is low, check and correct this condition; if plunger is not rising, clean plunger tube and seat with good solvent; if coil is loose, remove cap and tighten coil.

### I DO IT THIS WAY

**S**OONER or later, every serviceman finds it necessary to shorten a bolt. The general practice is to use a hack saw, and in most cases the nut is hard to start because of closed threads caused by the cutting.

Here is a simple way to avoid this difficulty. Run the nut on the bolt and pull it up close to the head. Then mark the bolt at the desired spot and saw off the end. Next back off the nut. As you do this it will clean and open up any closed threads, and the nut will be easy to start when you go to use it.

Arthur Schenck,  
Phillipsburg, N. J.

### Heat and Vacuum Combined Will Dry Cooling System

There are several methods of drying a refrigeration system. One of the most common of these is through the combined application of heat and vacuum.

"Package" type systems, which are shipped completely assembled and ready to operate, are generally dried by this method.



### WANT TO EARN \$5?

You don't have to be a literary genius to pick up a fast five-spot. All you have to do is jot down some of the shortcuts you've developed in your maintenance or installation work and send them to Here's How Editor, Commercial Refrigeration and Air Conditioning. If the Editor votes "yes" on your contribution, your \$5 will be paid promptly when your maintenance tip is published in the magazine. Let's hear from you!

The complete unit is placed in a heated oven and connected to an efficient vacuum pump. The heat vaporizes the moisture from the inner walls of the tubing, compressor, valves, etc., and the vacuum pump draws this water vapor out of the system.

Neither heat nor vacuum alone is sufficient. The oven temperature will be governed by the construction of the unit to be dried; and the greater the vacuum, the more completely dehydrated the system will be.

### I DO IT THIS WAY

**O**N gas leak jobs when the concentration of gas is heavy and a soap bubble test is required, I have found that the new pressurized cans of shaving cream provide the simplest way of supplying the necessary suds.

I carry a can of this type of shaving cream in my truck all the time, and simply by pushing a button I can have an ample supply of lather instantly. For best results, I mix the lather in a cup with 5 or 6 drops of water to give a lighter solution.

George R. Hendrickson,  
North Arlington, N. J.

Whenever possible, a "package" system which shows evidence of moisture should be removed from the job and dried in this manner. However, if conditions do not permit removal of the unit for baking, or if the system is one which has been assembled in the field, satisfactory drying may be accomplished by heat and vacuum.

The equipment necessary for drying a system on the job, by the heat and vacuum method, consists of infra-red or heat lamps, and a portable vacuum pump capable of drawing a vacuum of 28 or 29 inches of mercury. The following procedure is recommended:

Connect the vacuum pump to the system and start it running. With the heat lamps, warm every part of the system simultaneously, including all the tubing, and keep them warm, with the pump operating continuously. The length of time necessary to completely dehydrate will depend upon the size of the system and the capacity of the vacuum pump.

If all the tubing is not accessible for heating with the lamps or a





## TERMINAL SEALS

STOPS LEAKS WITHOUT OPENING UNIT

### STOP terminal leaks on All Sealed Units

**EASILY, QUICKLY and PROFITABLY!**

#### TERMINAL SEALS

Available for following  
sealed units:

- Admiral • Coldspot • Copelametic
- Crosley • Frigidaire • Gale
- G E • Gibson • Kelvinator
- Norge • Philco • Servel
- Stewart Warner • Schaefer Cabinet
- Tecumseh • Westinghouse

#### IMPORTANT

Terminal Seals for hermetic units not listed will be made available on special order AT NO EXTRA COST! Send complete information including make, model of unit and size of present terminal.



Pat. No.  
2,451,701

WATSCO Hermetic Terminal Seals screw right over original terminal post, sealing leak instantly and permanently in 5 minutes! Instead of removing the unit—work right on the job! Use only ratchet wrench or pliers! WATSCO'S impressive record of repeat orders from service engineers throughout the world speaks for itself! Dependable long time performance is insured by rigidly controlled time testing during manufacture.

Specify WATSCO Hermetic Terminal Seals.  
SAFEGUARD your job for years to come!

Available at Your Jobber



**Wagner Tool & Supply Corp.,**

REFRIGERATION PARTS AND TOOLS

40-08 22nd ST., L. I. City, N. Y.

torch, it should be removed from the system and either replaced with new dry tubing or thoroughly dried out and put back. New tubing will be more satisfactory in most cases.

In the case of a broken water-cooled condenser, where a large quantity of water has entered the system, all parts, including the tubing, should be removed and thoroughly dried in an oven. Here again, new tubing may be more practical.

Whenever any parts are removed from the system for drying in an oven, they should be capped or sealed as soon as they have cooled. If these parts are cold when they arrive at the job, they should be allowed to warm up to the temperature of the room in which they are to be installed before uncapping them.

#### Helpful Hints for Handling SO<sub>2</sub> Systems

When pulling air and gas from an old sulphur dioxide unit, it is necessary to prevent the SO<sub>2</sub> from getting into the vacuum pump. This can be accomplished by running it through a 5% solution of lye in water. About 2 pounds of lye are needed to neutralize 1 pound of SO<sub>2</sub>.

Simply put the lye solution into a bottle or jug with an inlet tube extending to the bottom. To make sure none of the solution gets into the vacuum pump, put the gas through a drier after it comes out of the bottle.

Some servicemen carry a 5-lb. cylinder of anhydrous ammonia, attached to which is a valve equipped with a tapered needle and fine thread. This arrangement allows maximum control of the flow of ammonia. With this equipment a room which has been filled with escaping sulphur dioxide can be neutralized in a few seconds. A white precipitate is left, but this is easily dusted away.

#### NAME OMAHA COMPANY

The Henry W. Miller Electric Co. of Omaha, Neb., has been awarded a franchise to sell Westinghouse self-contained air conditioning equipment.



J. A. COETACK

SEE PAGE 19

## OPPORTUNITIES

(Classified Advertising)

Rates: for "Positions Wanted, \$4.00 minimum, limit 25 words. For all other classifications, \$4.50 minimum for 25 words or under, each additional word 15¢; boldface type or all capitals, \$7.50 minimum for 25 words or under, each additional word 20¢.

### TRAINING AVAILABLE

Course on sealed unit rebuilding trade secrets disclosing exclusive methods for all operations, \$12.00 or write for details. H. Custer, Box 98, Center Line, Michigan.

### REMINGTON HOLDS SCHOOLS ON SERVICE

The air conditioning division of Remington Corp. recently held four intensive one-day service meetings throughout the country.

Under the direction of M. L. Judd, general sales manager, the regional meetings were designed to bring directly to the distributors of Remington room air conditioners the latest information on company service, policies, installation and maintenance techniques. The new "strip-chassis" program, and a method to facilitate field service of the firm's new sealed hermetic system for 1 and 1½-hp console units, were also covered.

The four regional meetings were planned by Carl F. Zauner, national service manager.

## 20 SYSTEMS . . . . .

Continued from page 79

gravel. All process sections, except the aureomycin area, have plaster ceilings.

Working in conjunction with Cyanamid's central engineering department in New York City, Ross, Patterson, Townsend and Fish, a Canadian firm, were the architects and engineers for the new building which was completed early last fall. J. L. E. Price and Co., Ltd. were the general contractors. All controls for the refrigeration and air conditioning systems were installed by Minneapolis Honeywell Regulator Co., Montreal. The valves and damper motors have positioning relays and are reversible in the field, while individual air conditioning systems have Carrier "Weather-maker" fan coil units with spray pumps. Canadian Comstock Co., Ltd. installed the entire ventilation and air conditioning systems.

### NAME VANDERSMITH'S

A franchise to handle Westinghouse self-contained air conditioning equipment has been awarded Vandersmith's Home Equipment Center at Lancaster, Pa.

## NO MORE FREEZE-UPS

of expansion valves or capillary tubes!

**ICE-X** works like magic  
SERVICE MEN SAY: "ICE-X IS GREAT!"



When ice forms in expansion valves or capillary tubes, ICE-X is a sure remedy . . . ICE-X is non-corrosive—harmless to parts. An ice-eliminator that can't be beat for Freon, Carrene, or Methyl Chloride systems . . . Order from your jobber. If no jobber, order direct.



Service doesn't falter  
when it comes from Harry Alter

Jobbers: Ask for special offer!

**The HARRY ALTER co.**

Exclusive  
ICE-X  
Distributor

1728 S. Michigan Ave. Chicago 16, Illinois

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and AIR CONDITIONING • JUNE, 1953

## BENDIX-FRIEZ PORTABLE TEMPERATURE, HUMIDITY RECORDER



Model 160



Indispensable  
for . . . **SELLING  
THE NEED,  
CHECKING THE INSTALLATION**

When it comes to selling and installing air conditioning, refrigeration or heating equipment, this precision Bendix-Friez instrument can make your job much easier all-around.

First, it will help you sell. For it gives your customers charted, scientific evidence of their need for temperature and humidity control. Second, it will help you check the installation . . . because it gives visible proof to you and your customers of whether or not the installation is operating properly.

This Bendix-Friez Temperature and Humidity Recorder provides 3" x 5" charts with 10 or 30 hour records . . . is portable as a camera . . . built to U.S. Weather Bureau standards . . . the product of the world's oldest, largest manufacturer of fine weather instruments. Write for full details today.



**BENDIX-FRIEZ HYGRODIOL**  
Precision Humidity  
and Temperature Indicator

Hand-operated for laboratory precision. Calibrated to professional standards of accuracy. Modern, plastic case measures 4" high, 6" wide, 2½" deep. Desk or wall mounting.

**FRIEZ INSTRUMENT**  
DIVISION OF



Write for information about Bendix Friez Weatherman lobby installations.

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EXPORT SALES: Bendix International Division;  
72 Fifth Avenue, New York 11, N. Y.

Circle No. 112 on Reader Service Card

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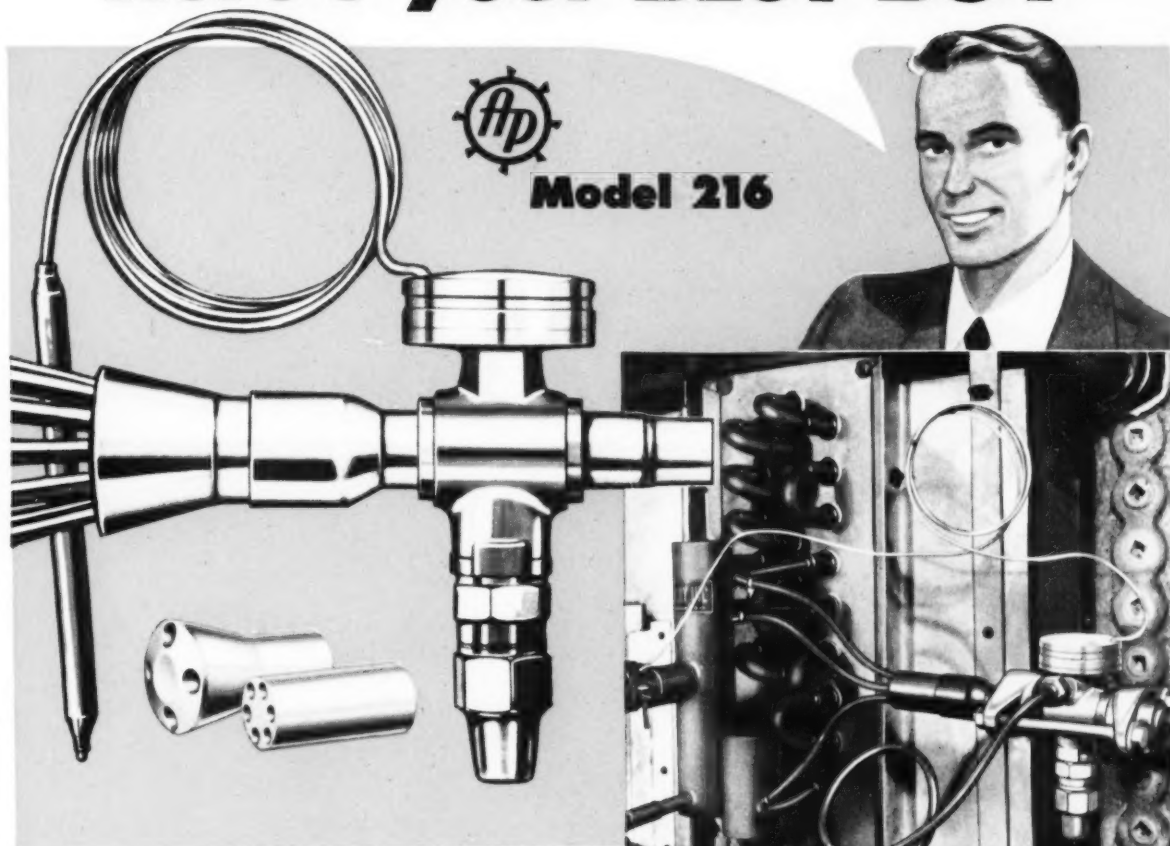
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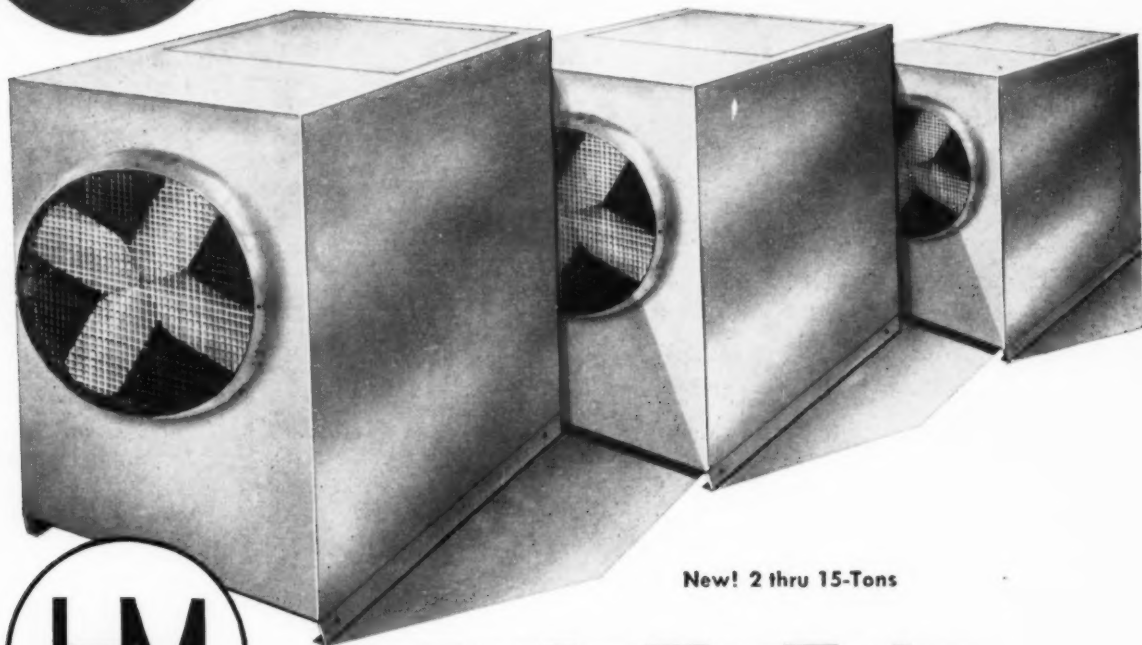
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